

# Screening and Assessment of 2004 Post School Program Applicants

Professor Kathy Eagar and Ms Janette Green  
Centre for Health Service Development (CHSD)

# Overview

- ◆ Background - the original research project
- ◆ Background - results - a profile of ATLAS consumers and their prospects
- ◆ How this information was used to design the 2004 assessment profile that transition teachers are being asked to complete
- ◆ How to complete the forms

# History

- ◆ 2002 - ATLAS Assessment Project
- ◆ 2003 - ATLAS applicants assessed and allocated to programs based on the results of the 2002 project
  - 9 item functional screen plus behaviour screen
- ◆ 2004 - ATLAS assessment tool refined by the addition of one profile
  - instrumental (domestic/social) assessment

# The NSW ATLAS Assessment Project

- ◆ DADHC commissioned the Commonwealth Rehabilitation Service (CRS) in 2002 to assess post-school leavers who were already in, or applying to join, the NSW ATLAS program.
- ◆ Schools (Special Support Teachers) completed a 9 item Functional Screen on each 2002 school leaver so that the results achieved with a short functional screen and the results achieved with the full functional assessments undertaken by the CRS could be compared.

## Four ATLAS cohorts in the original study

- ◆ 608 young people who were leaving school at the end of 2002
  - Screening data by school
  - Assessment data by CRS
- ◆ 486 who left school in 2001
- ◆ 215 who left school in 2000 and
- ◆ 264 who left school in 1999.
- ◆ **Plus**, in 2003, 648 applicants assessed using some of the same tools

# The CRS assessment

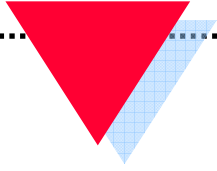
- ◆ Age
- ◆ Sex
- ◆ Disabilities
- ◆ Goal
- ◆ Strengths (5)
- ◆ Barriers to economic and social participation (5)
- ◆ Current capacity to work
- ◆ Future capacity to work, self-care
- ◆ Recommended interventions (20)
- ◆ Recommended type of assistance
- ◆ Type of suitable work
- ◆ Self-care functioning
- ◆ Domestic functioning
- ◆ Behavioural functioning

# The CRS assessment

- ◆ In summary, different types of information:
  - generic measures of the person and their needs
    - ◆ some that are routinely collected and have standard data sets (eg, age, sex, disability)
    - ◆ some that are not (strengths, barriers, the 3 functional measures - self care, domestic and behaviour)
  - current and future capacity for work (with and without the recommended interventions) plus type of work
  - recommended interventions and type of assistance

# Some of the research questions

- ◆ Which measures of the person and their needs
  - ◆ eg, age, sex, disability, strengths, barriers, self care functioning, domestic functioning, behavioural functioning
- ◆ Best predict?
  - ◆ the person's current and future capacity for work (with and without the recommended interventions) and/or
  - ◆ the interventions and type of assistance that the person needs
- ◆ How do the results achieved with a short functional screen (undertaken by schools) compare with the results of a full functional assessment (by the CRS)?



And now a bit of a diversion

Functional dependency

# *Functional Dependency*

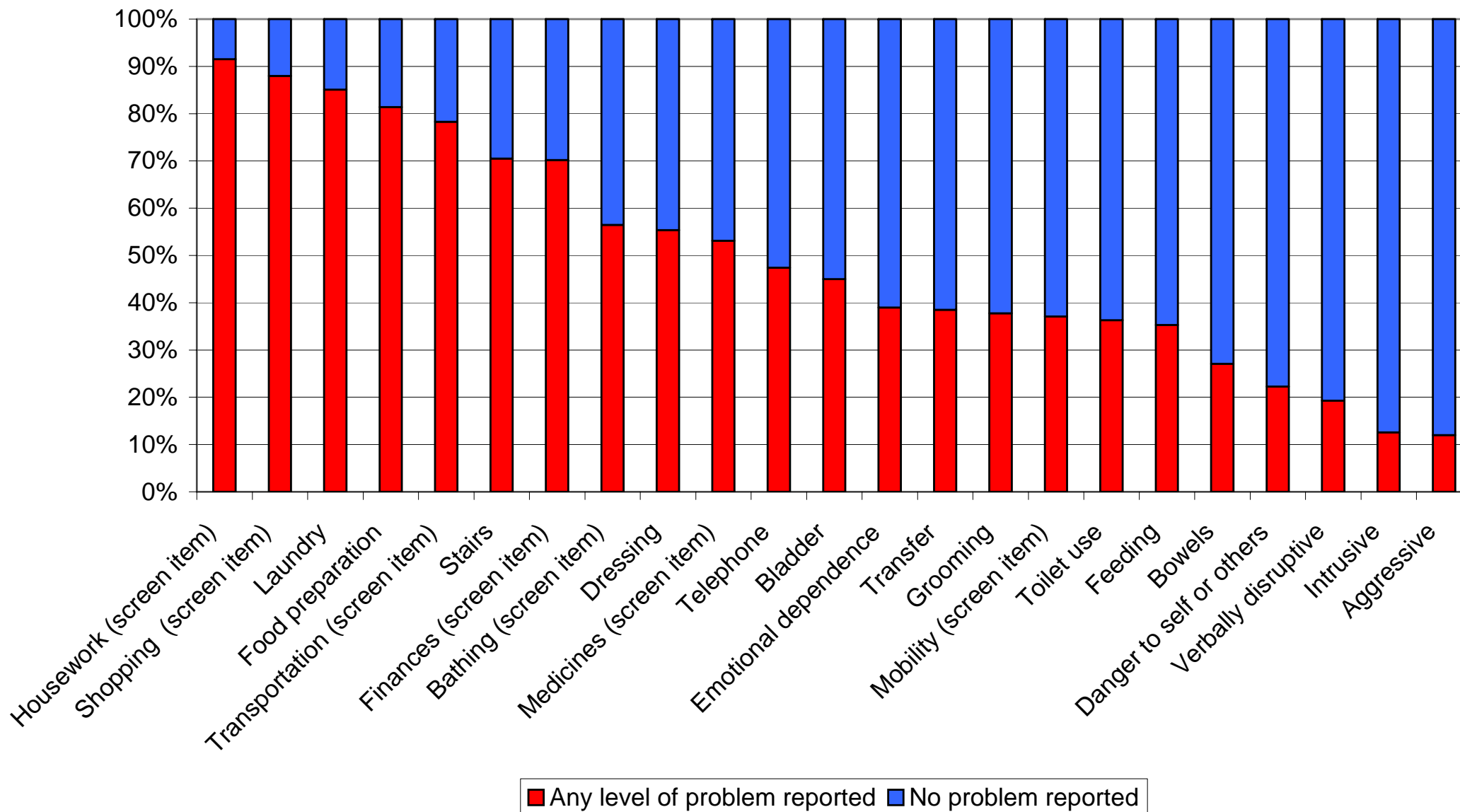
A measure of functional dependency is:

- ◆ an instrument that identifies areas in which a person requires assistance with daily living, and
- ◆ that quantifies the extent to which that person has to rely on someone else to help them carry out normal activities in their home and community.

## *Functional hierarchy of loss - early loss and late loss Activities of Daily Living (ADLs)*

- ◆ People lose functional abilities in the opposite order to which they acquire them
- ◆ 'Early loss' ADLs like housework, transport, handling money, managing medicines (domestic functioning) are gained last and lost first
- ◆ 'Late loss' ADLs like dressing, toileting, feeding and bed mobility (self-care) are gained 1st and lost last
- ◆ It is reasonable to assume that, if a person can do early loss ADLs, they can also do late loss (supports screening)

### Profile of the HACC population on the functional assessment



# Another important research question

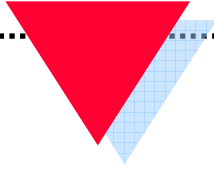
- ◆ If people lose functional abilities in the opposite order to which they acquire them, does the reverse hold true for the ATLAS population?
- ◆ Do young people in the ATLAS program acquire functional abilities in a fairly predictable order?
- ◆ If so, what is the hierarchy of functional acquisition for applicants to the ATLAS program?
- ◆ Is the hierarchy of acquisition predictable enough to support screening?
  - Can you assume that, if a person can do ADLs acquired late, they can also do ADLs acquired early? (if so, this supports screening)

# The screening data set completed by teachers

- ◆ The 9 item functional screen originally developed for use in the Home and Community Care (HACC) program
- ◆ Designed to identify where the person sits on the functional hierarchy
- ◆ Does not attempt to capture all aspects of function or the most important. Rather, the 9 items in the screen are the best predictors of how well a person is functioning in other aspects of their life.
- ◆ Question was whether this could be used with ATLAS consumers
  - if so, the full assessment may be unnecessary

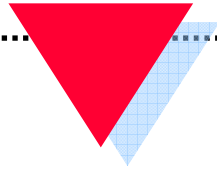
# Functional Screen

- ◆ 4 domains measured through 9 questions:
  - ◆ Domestic functioning - 3 questions (housework, travelling to places and shopping) to screen for domestic function & 2 questions (handling money and taking medication) that also act as a screen for cognitive or behavioural problems
  - ◆ Self-care functioning - 2 questions (walking, bathing)
  - ◆ Challenging behaviour - 1 question
  - ◆ Cognitive functioning - 1 question



# Some results

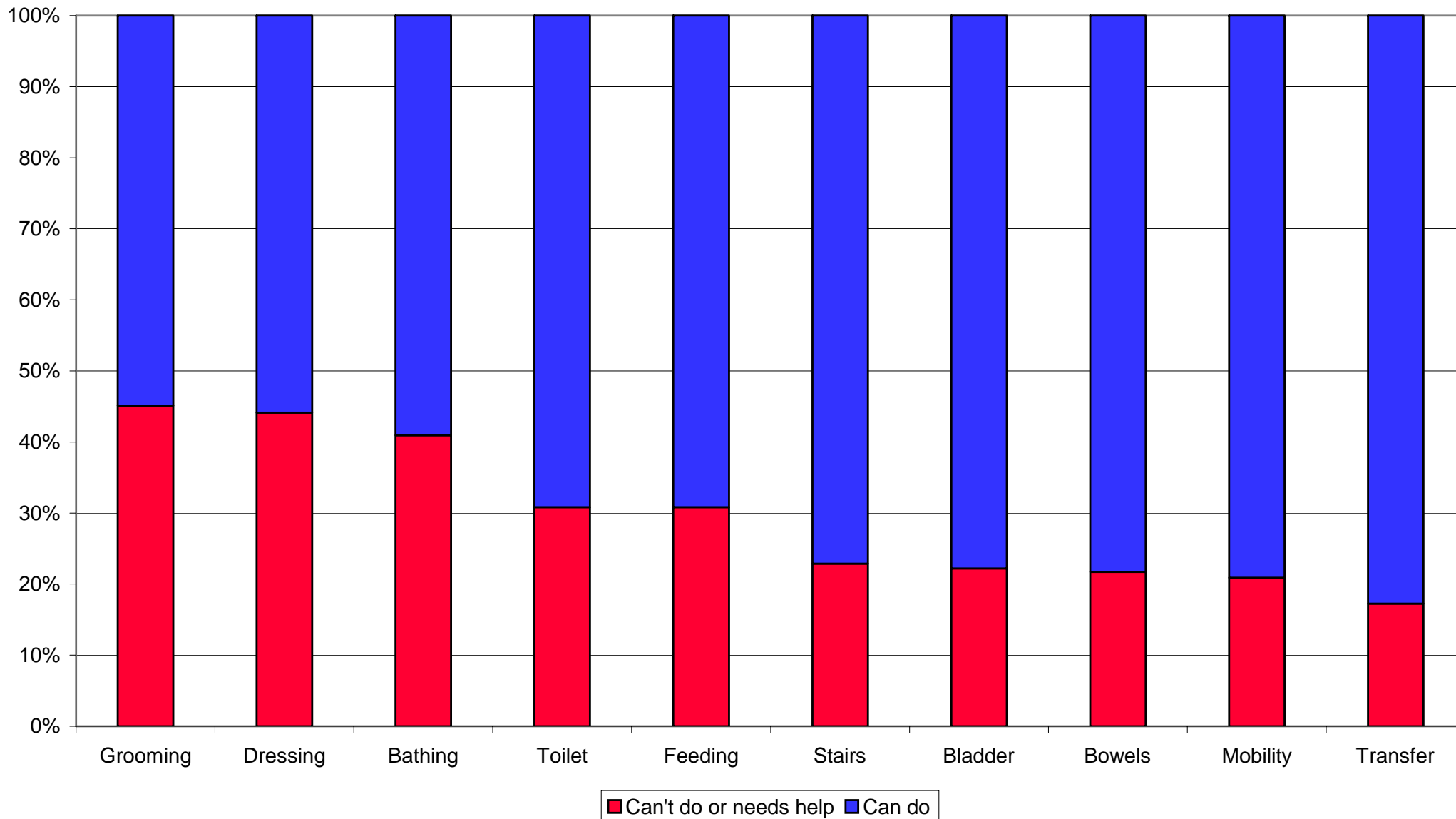
From the original study and the 2003  
applications



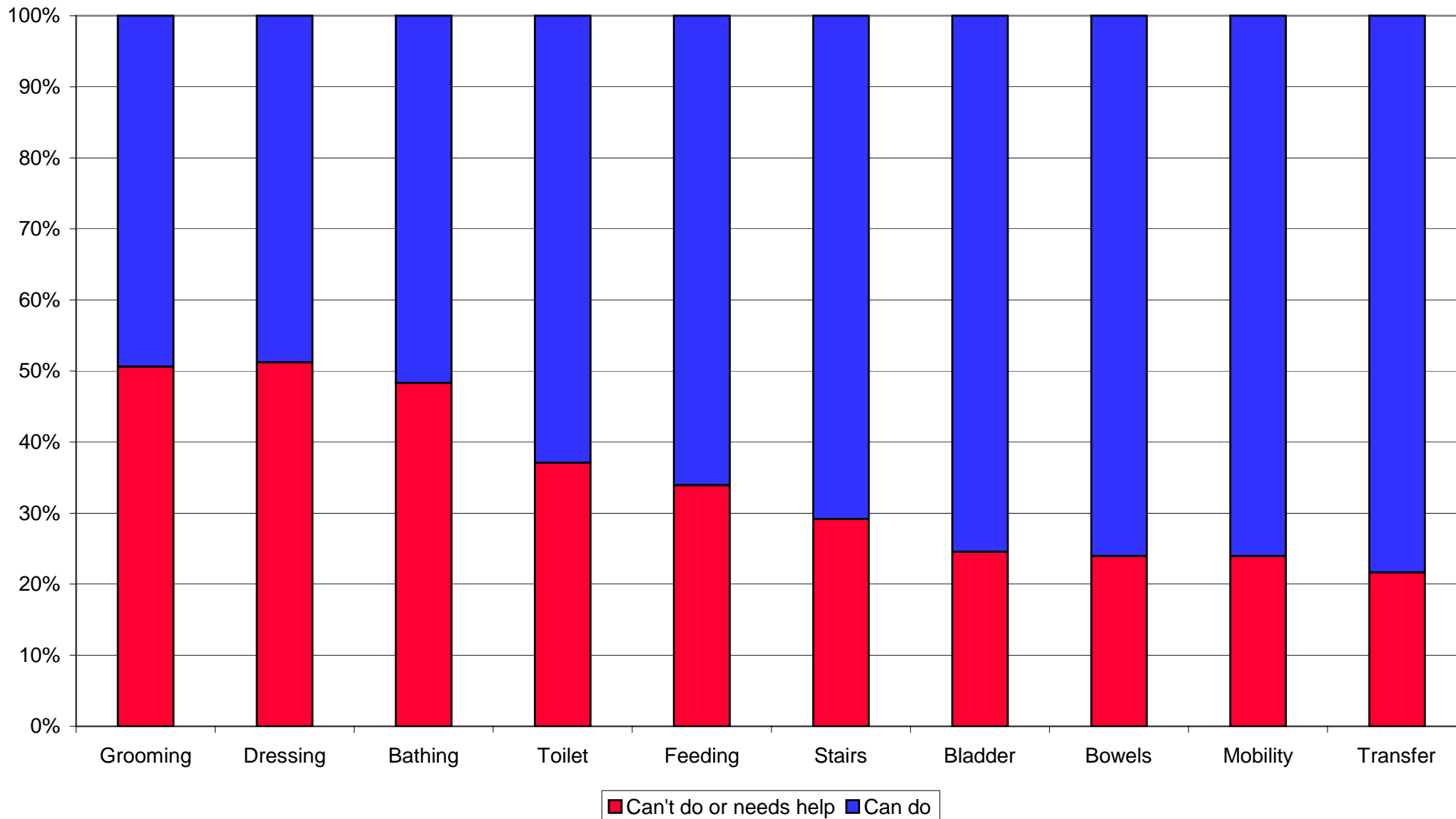
The functional hierarchy was stable over  
the 4 years in the original study

An example - self care functioning

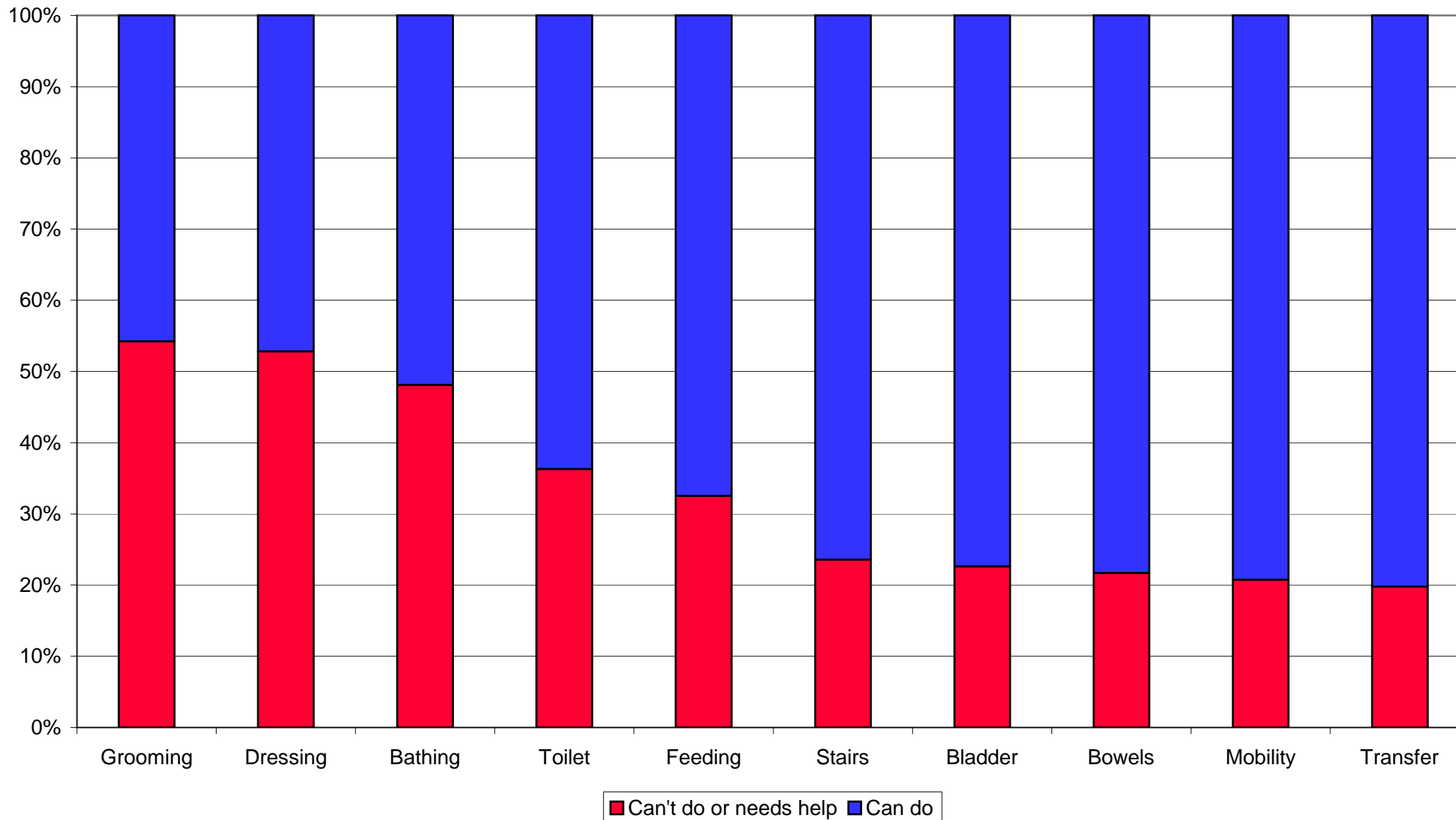
# Self care functioning - 2002 cohort



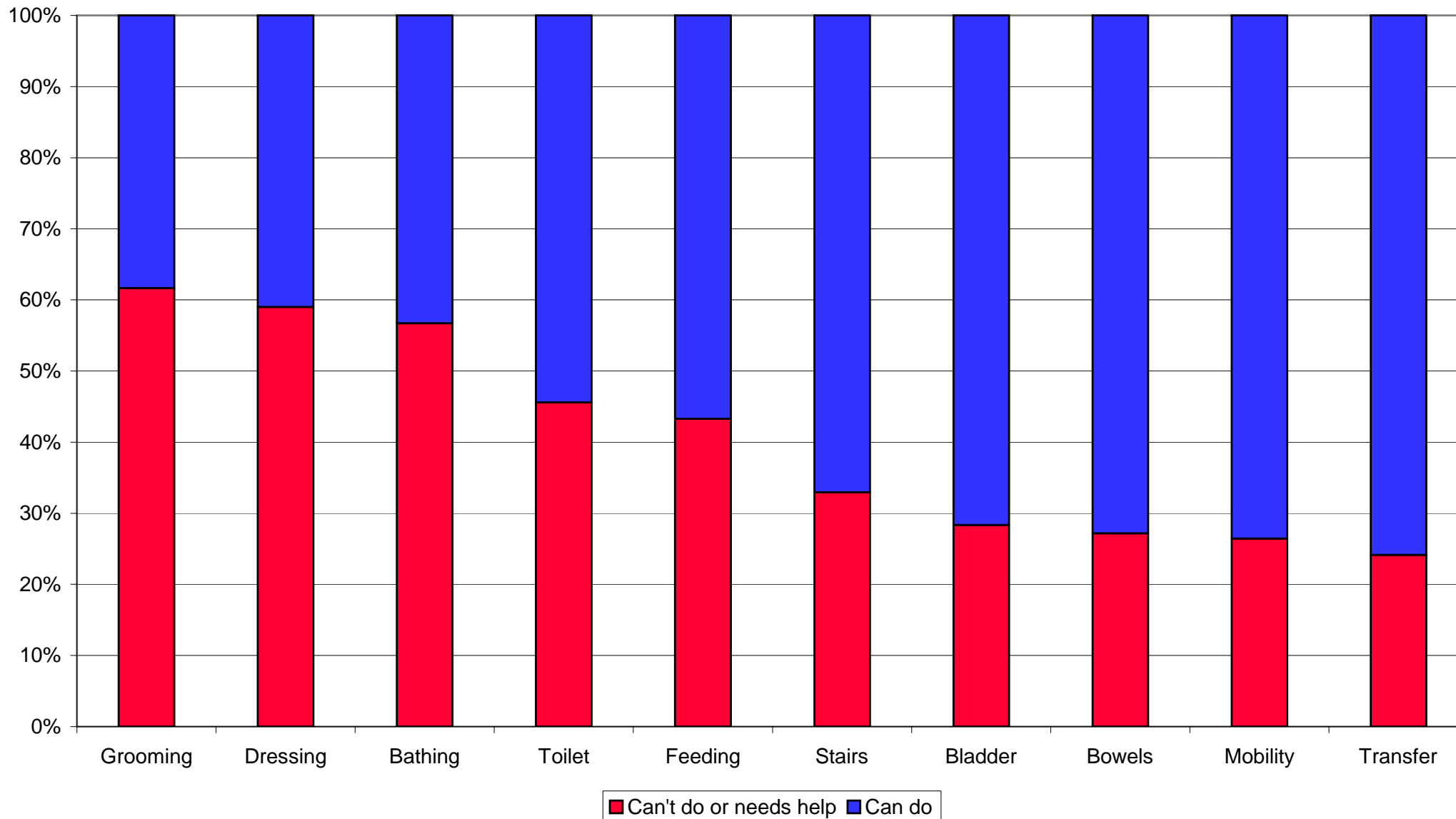
# Self care functioning - 2001 cohort

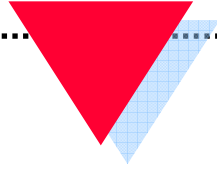


# Self care functioning - 2000 cohort



# Self care functioning - 1999 cohort

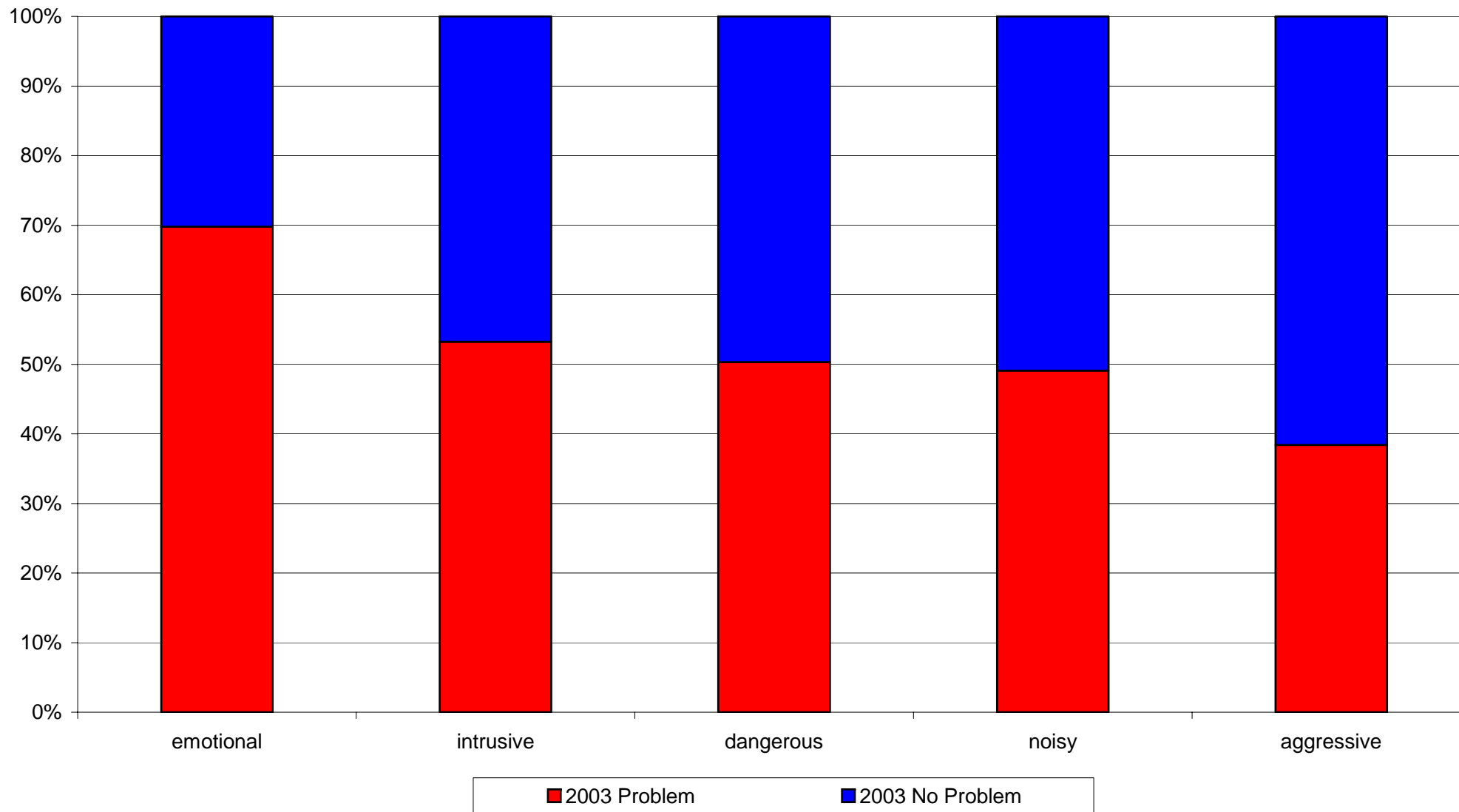




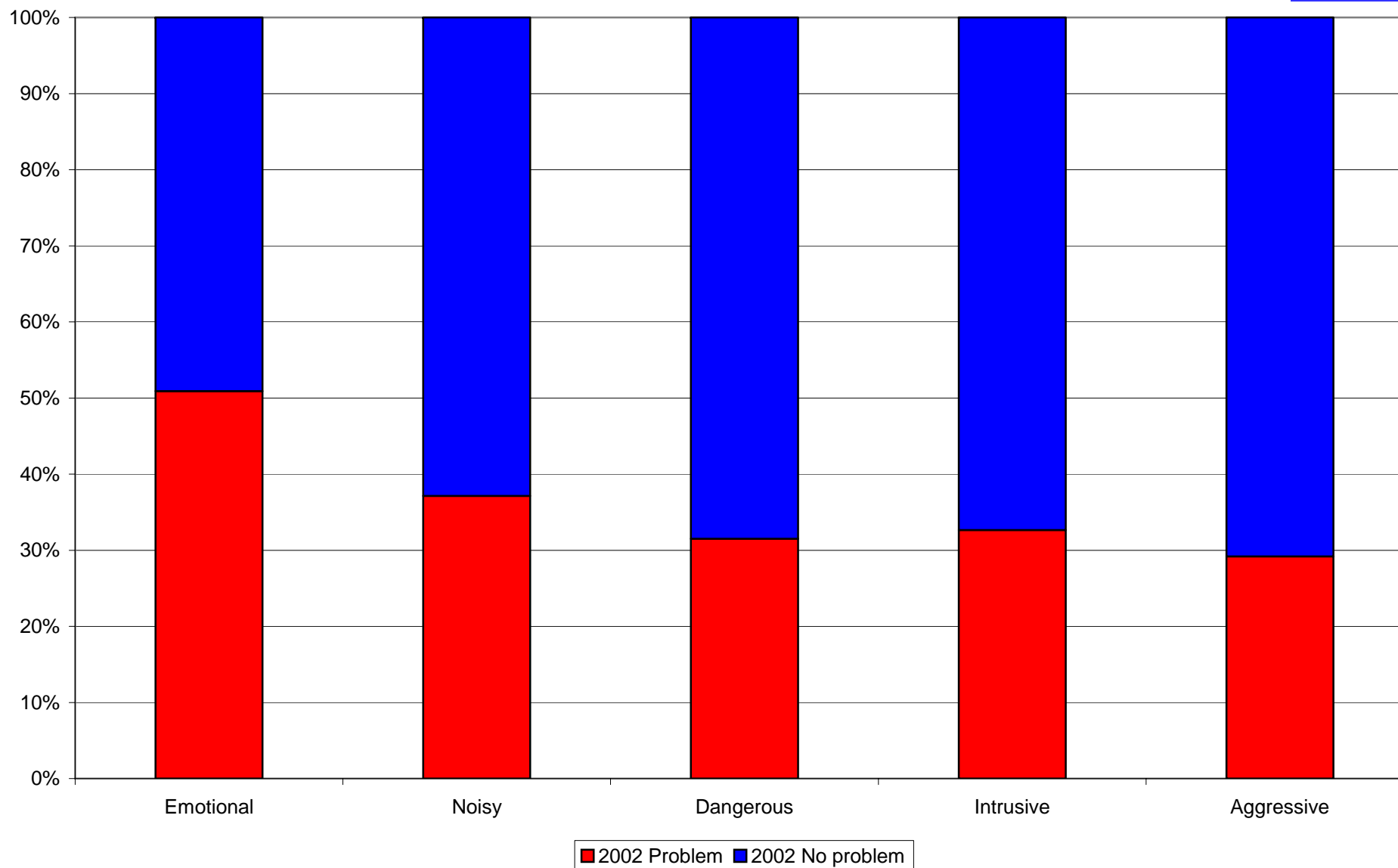
The behavioural pattern remains  
consistent over the 5 years

The original study and the 2003 applicants

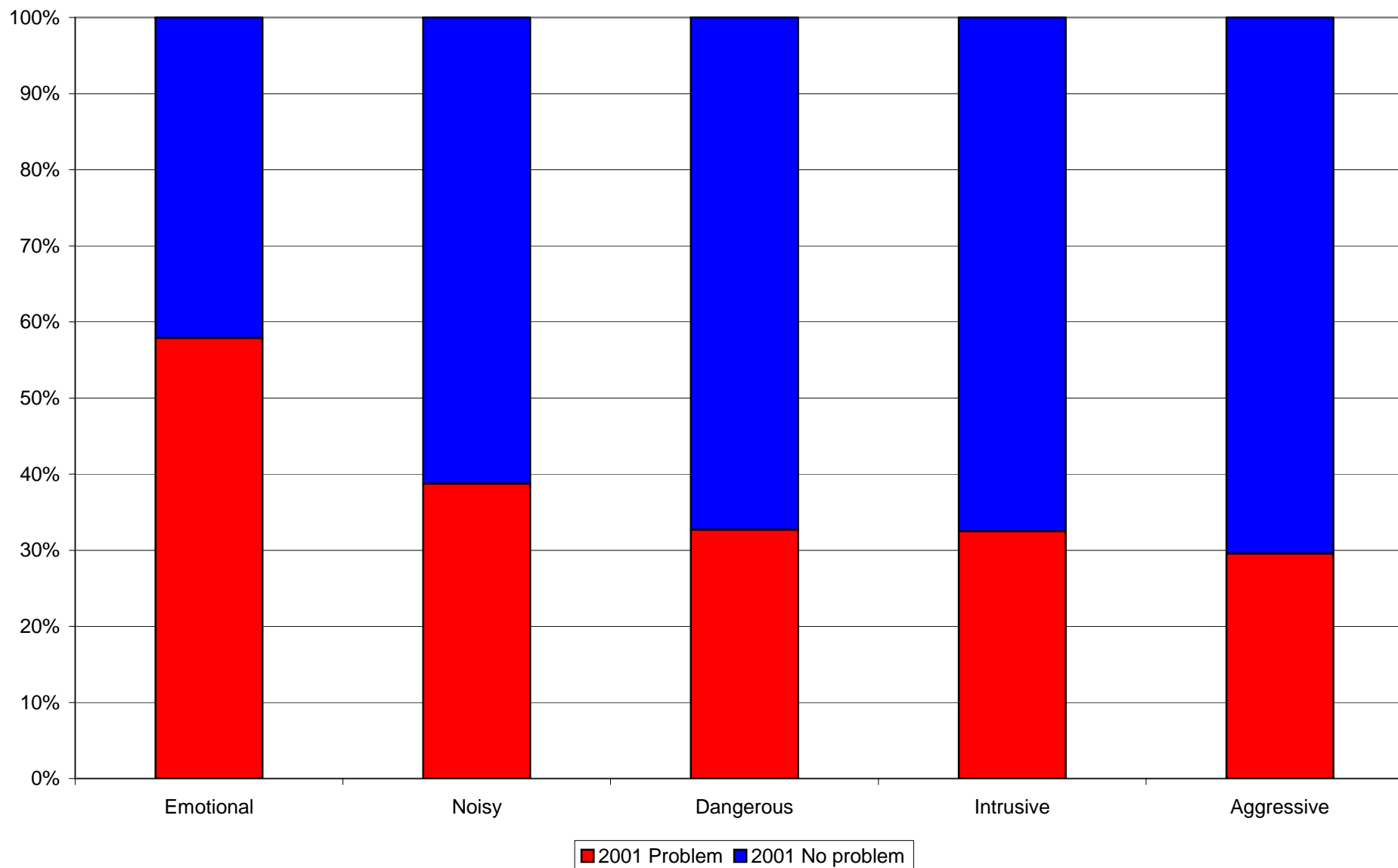
# Behaviour 2003



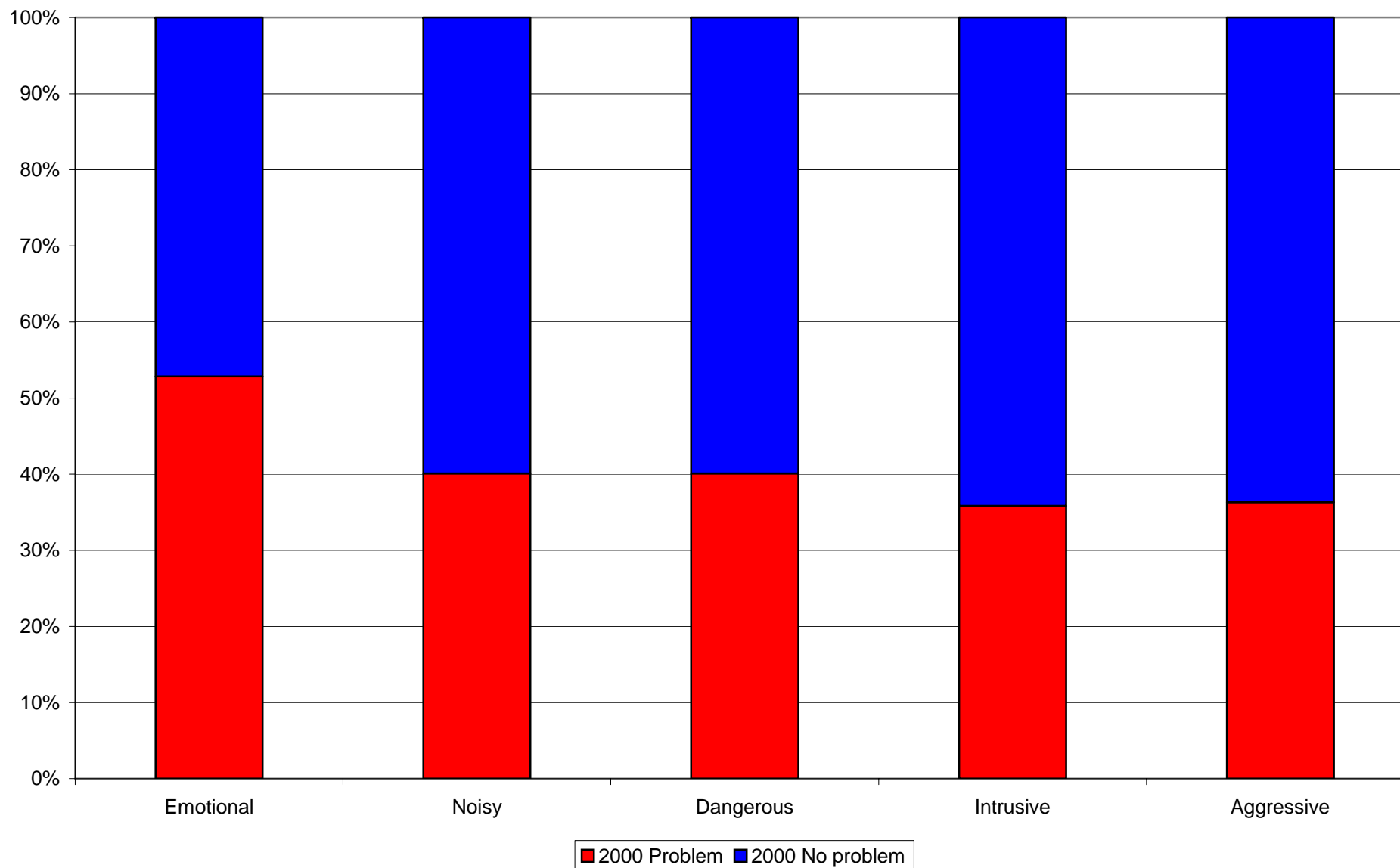
# Behaviour 2002



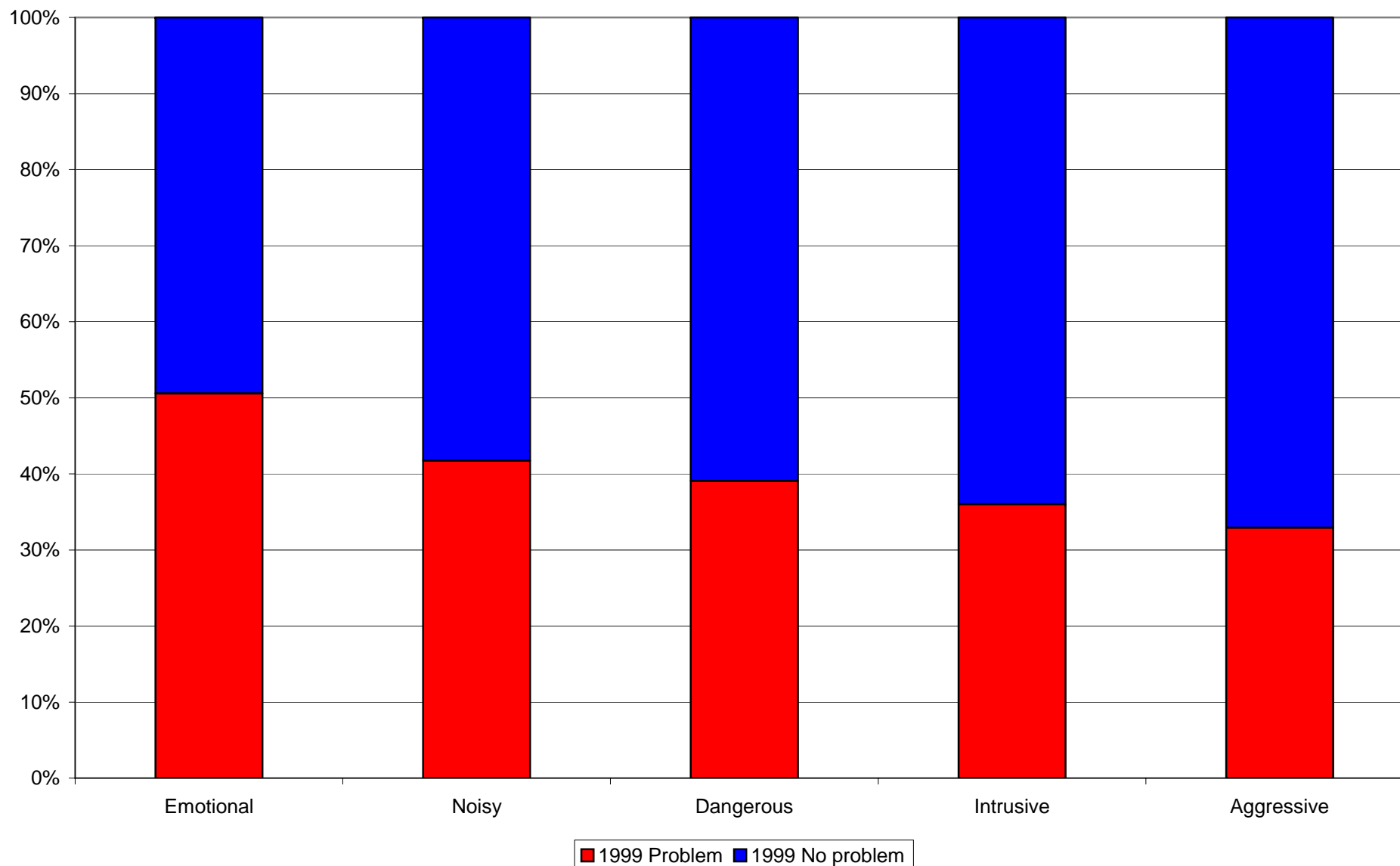
# Behaviour 2001



# Behaviour 2000



# Behaviour 1999



# Functioning and no. of disabilities

- ◆ Those with 1 disability:
  - 7% had low self-care ability.
  - 22% had low domestic ability.
  - 14% had major behavioural problem

- ◆ Those with 2 disabilities:
  - 10% had low self care ability.
  - 39% low domestic ability.
  - 21% had major behavioural problem.

- ◆ Those with 3 disabilities:
  - 30% had low self-care ability.
  - 63% had low domestic ability.
  - 31% had major behavioural problem

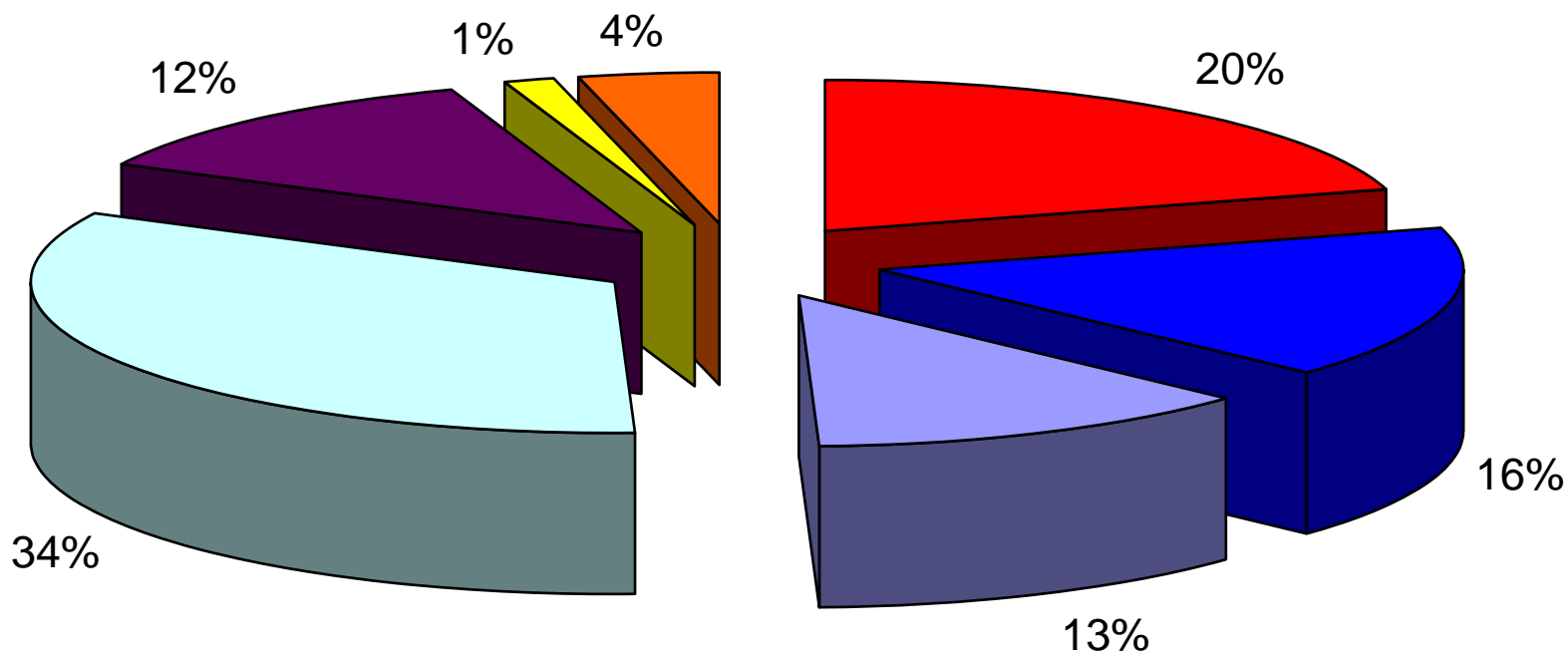
# Functioning and disability type

- ◆ Those with an intellectual disability:
  - 12% had low self-care ability.
  - 44% had low domestic ability.
  - 25% had major behavioural problem
- ◆ Those with physical disabilities:
  - 48% had low self care ability.
  - 43% low domestic ability.
  - 7% had major behavioural problem.
- ◆ Those with autism:
  - 7% had low self-care ability.
  - 58% had low domestic ability.
  - 49% had major behavioural problem

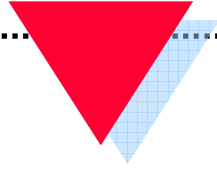
# Capacity to work

- ◆ Of the 1556, only 11 (0.7%) people were assessed as being capable of participating in full time employment without intervention.
- ◆ After an intervention, 126 (8%) were expected to be able to participate in full time work.
- ◆ 66% of the cohort were assessed as having no improved capacity for work after receiving the interventions recommended by the CRS.
- ◆ Even after intervention, 996 (64%) were expected to be able to work less than 8 hours a week.

# Type of assistance required



- 01 Day program
- 02 Comm. Access
- 03A Transitional
- 03B Transitional
- 04 Dis. Empl. Svcs.
- 05A Voc. Rehab. Svs
- 05B Voc. Rehab. Svs



Results - what predicts work capacity and type of required assistance?

The higher the correlation, the better

# Correlations between functional assessment results and capacity to work

	Correlation
Between the total score on the domestic assessment and future capacity to work	0.67
Between the total self care assessment score and future capacity to work	0.39
Between the total score on the behaviour assessment and future capacity to work	0.37
Between the total score on the domestic assessment and current capacity to work	0.30
Between the total self care assessment score and current capacity to work	0.13
Between the total score on the behaviour assessment and current capacity to work	0.15

# Correlations between other measures and capacity to work

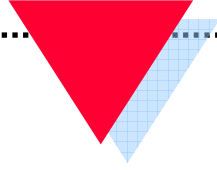
	Correlation
Between disability type and current work capacity	0.13
Between disability type and future work capacity	0.10
Between gender and future work capacity	0.06
Between gender and current work capacity	0.03
Between age and current work capacity	-0.08
Between age and future work capacity	-0.14
Between the number of disabilities and current work capacity	-0.16
Between the number of disabilities and future work capacity	-0.36

# Correlations between functional assessment results and type of program

	Correlation
Between the domestic assessment score and which of the 7 programs is recommended	0.74
Between the domestic assessment score and which of the 3 assistance levels is recommended	0.71
Between the self care assessment score and which of the 7 programs is recommended	0.60
Between the self care assessment score and which of the 3 assistance levels is recommended	0.54
Between the behavioural assessment score on the screen and which of the 3 assistance levels is recommended	0.42
Between the behavioural assessment score on the screen and which of the 7 programs is recommended	0.41

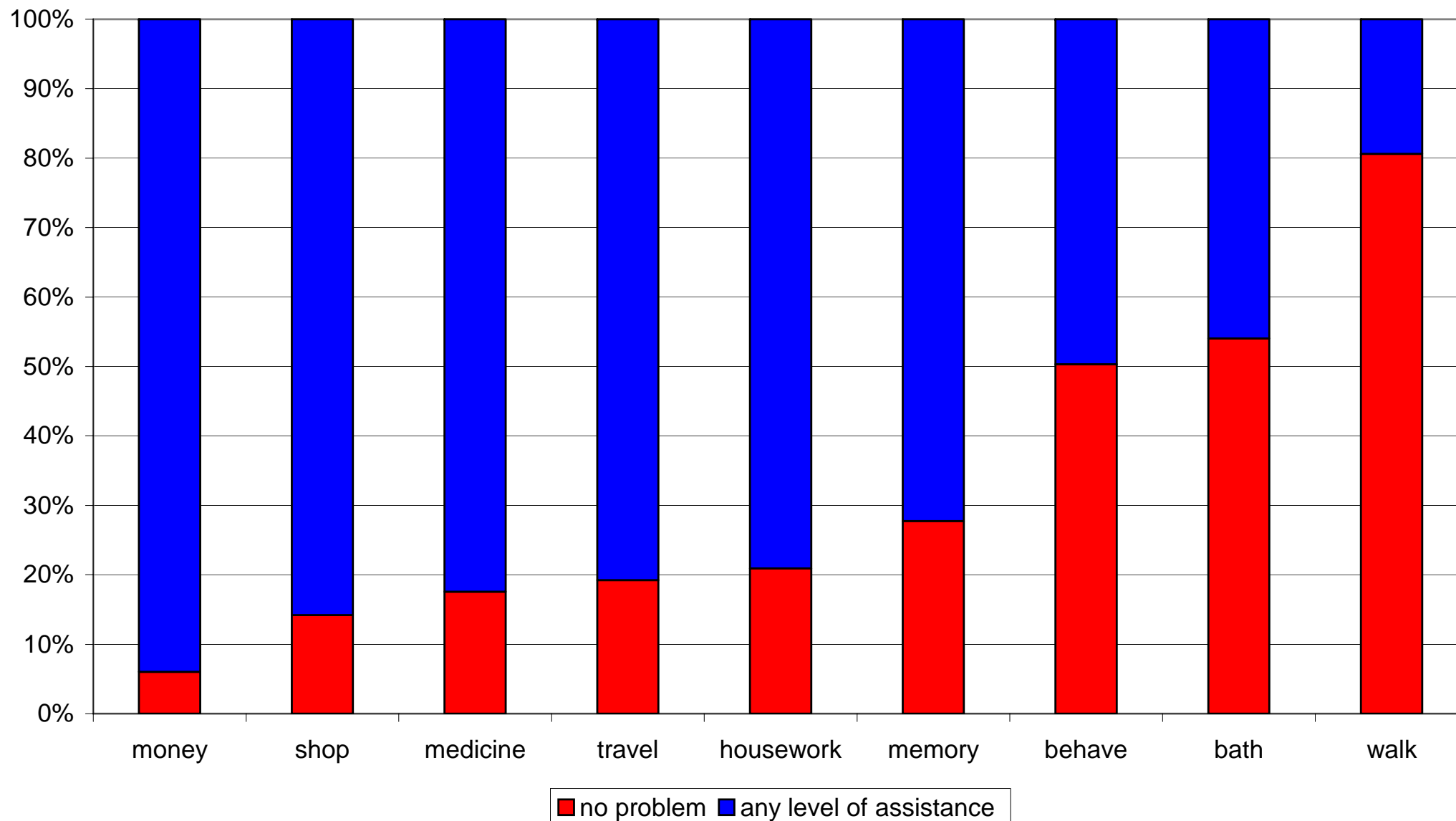
# Correlations between other measures and type of program

	Correlation
Between gender and assistance type	0.07
Between disability type and assistance type	0.07
Between age and assistance type	-0.14
Between number of disabilities and assistance type	-0.35

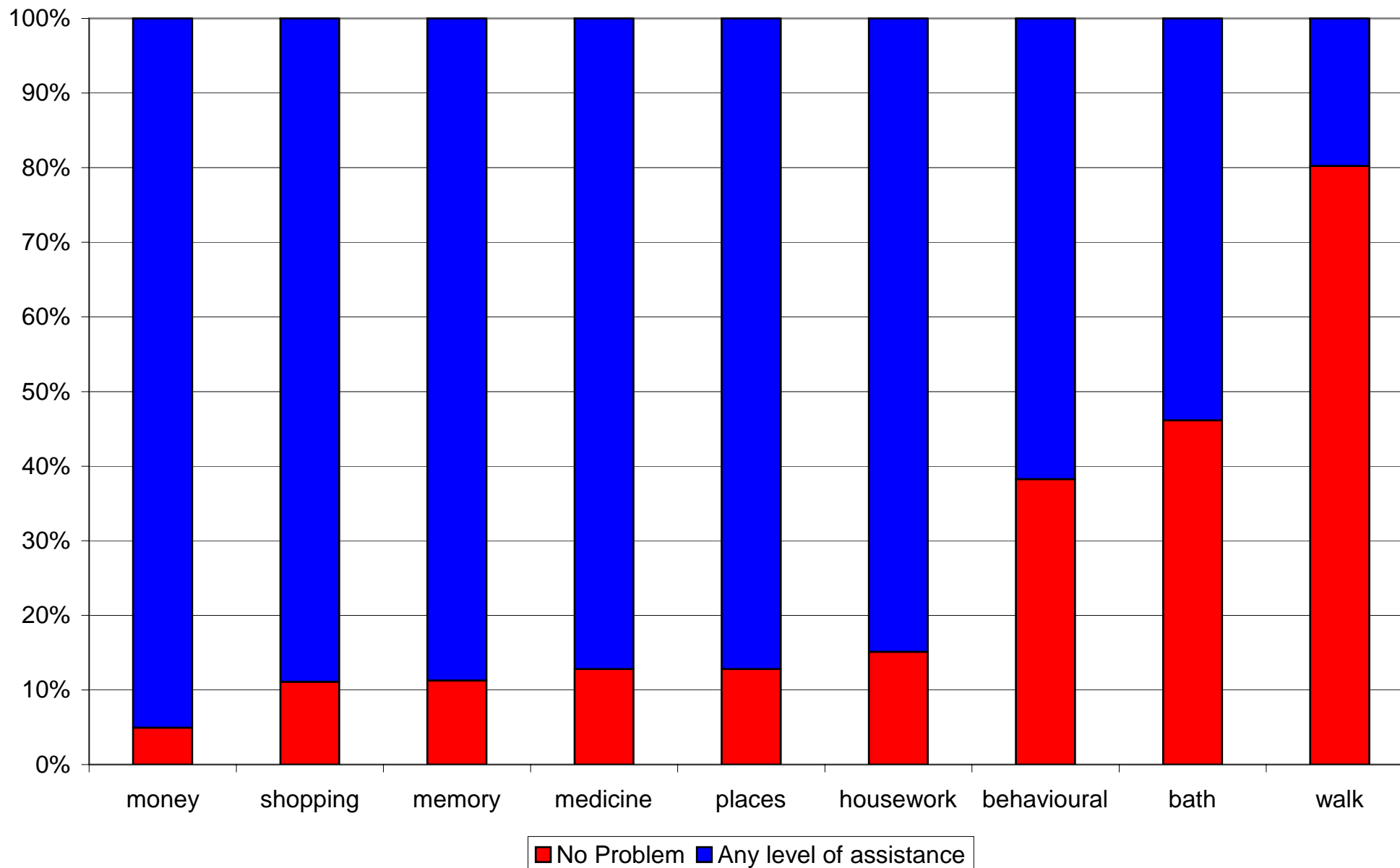


Results of the functional screen  
conducted by teachers (2 years)

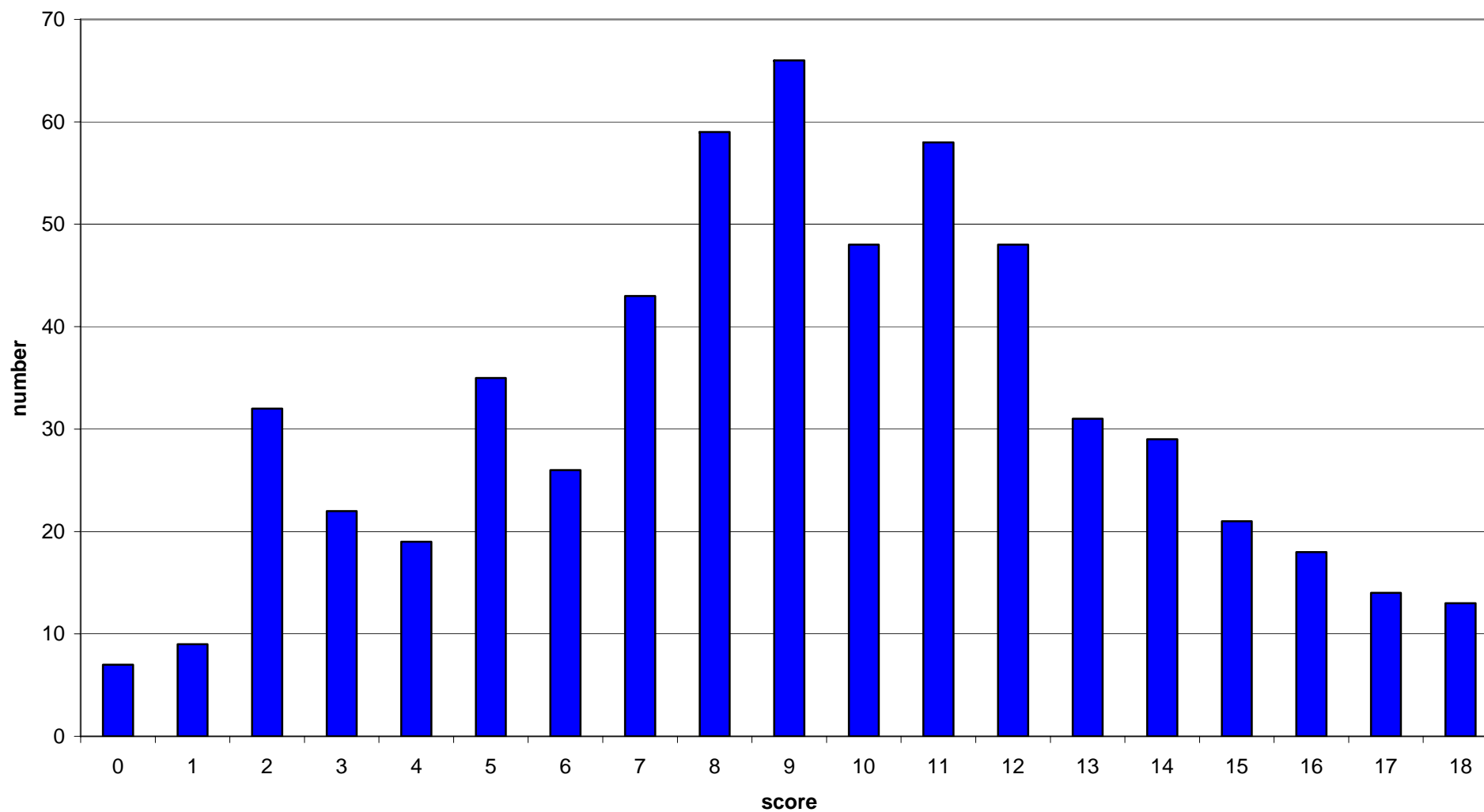
# Functional screening results - 2002



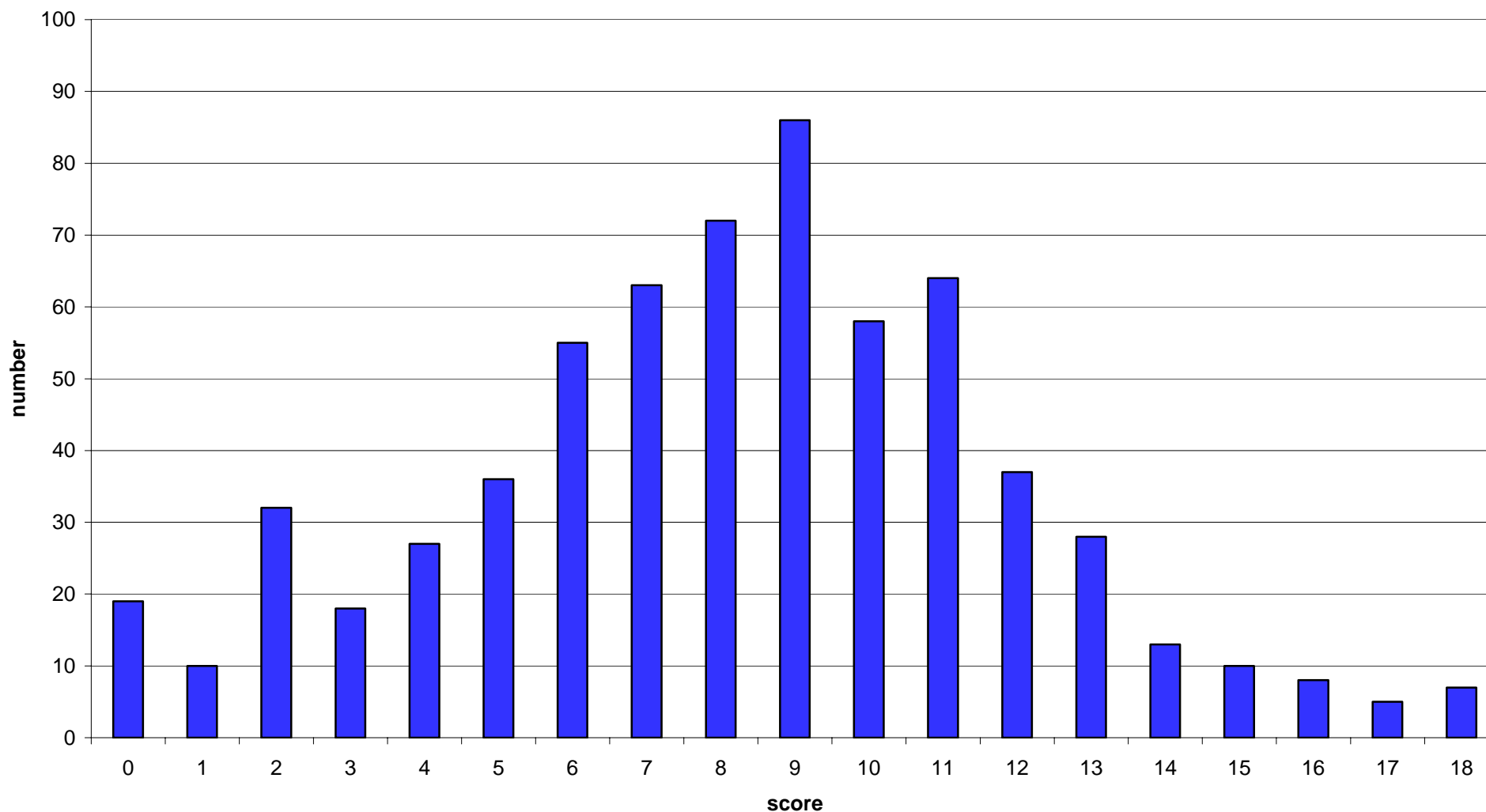
# Functional screening results - 2003



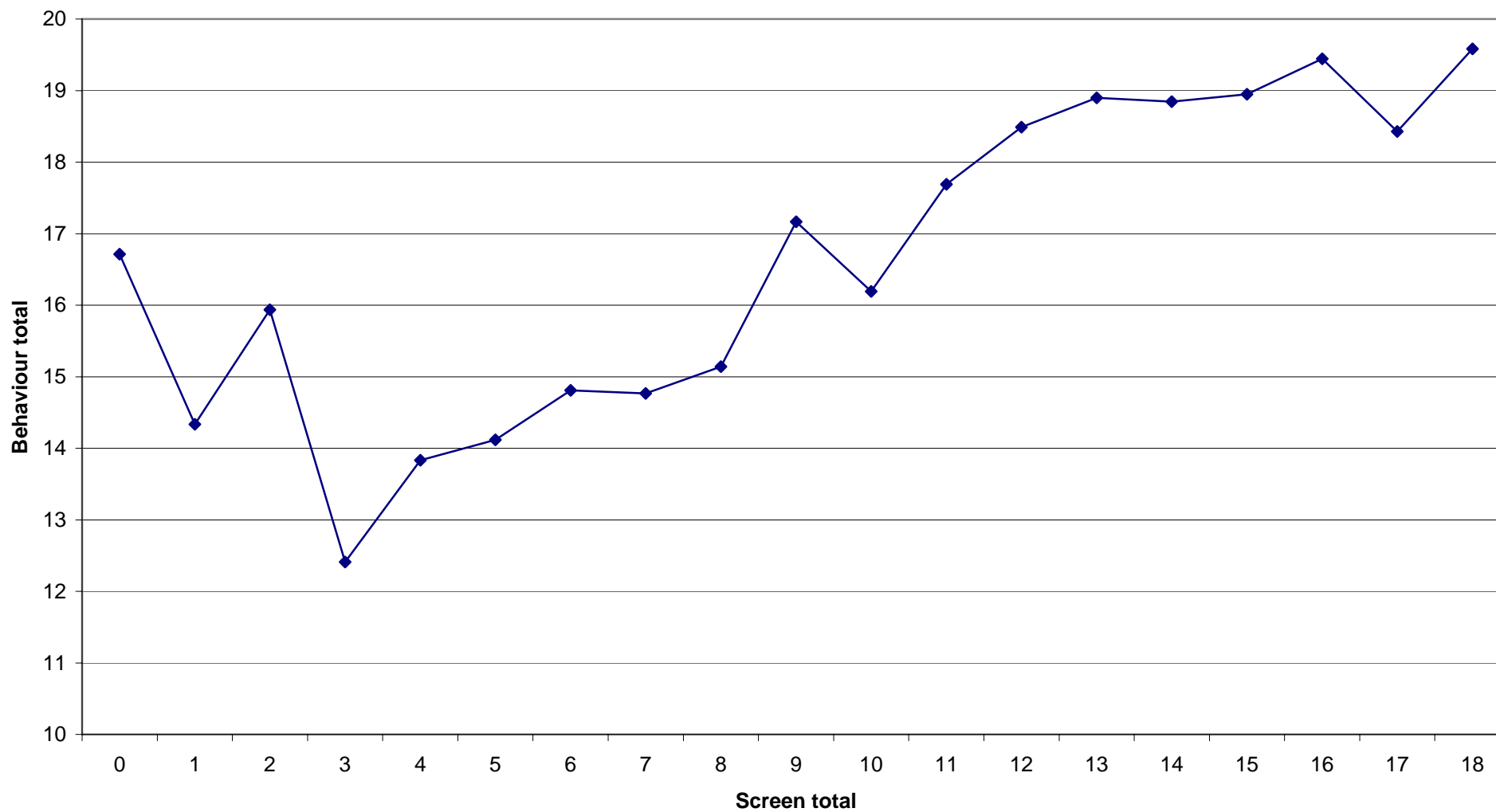
# 2002 functional screen total scores



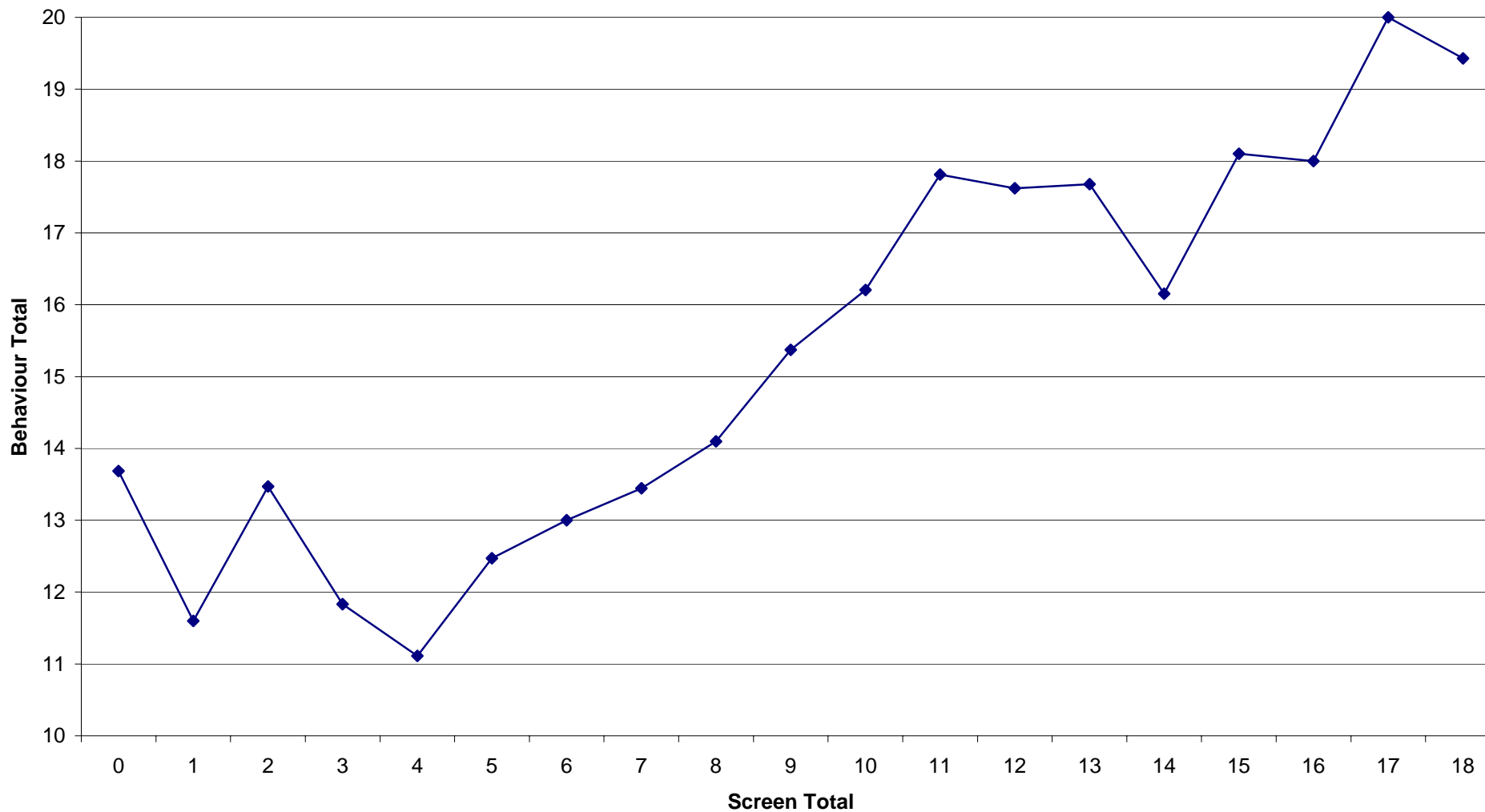
# 2003 functional screen total scores



# 2002 applicants



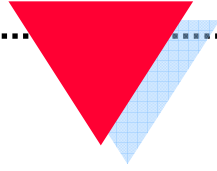
# 2003 applicants



	Correlation
Between the score on the self care items in the screen (questions 6-7) and the total score on the self care assessment	0.87
Between the total score on the screen and the total of the 3 functional assessments	0.83
Between the score on the domestic items in the screen (questions 1-5) and the total score on the domestic assessment	0.83
Between the total score on the screen and the total score on the domestic assessment	0.80
Between the total score on the screen and the total self care score	0.70
Between the score on the behaviour item in the screen (question 9) and the total score on the behaviour assessment	0.52
Between the total score on the screen and the total score on the behaviour assessment	0.41

	Correlation
Between the score on the domestic items in the screen (questions 1-5) and future capacity to work	0.61
Between the total score on the screen and future capacity to work	0.58
Between the score on the self care items in the screen (questions 6-7) and future capacity to work	0.42
Between the score on the domestic items in the screen (questions 1-5) and current capacity to work	0.27
Between the total score on the screen and current capacity to work	0.25
Between the score on behaviour item and future capacity to work	0.25
Between the score on the self care items in the screen (questions 6-7) and current capacity to work	0.15
Between the score on behaviour item and current capacity to work	0.10

	Correlation
Between the score on the domestic items in the screen (questions 1-5) and which of the 7 programs is recommended	0.67
Between the total score on the screen and which of the 7 programs is recommended	0.66
Between the total score on the screen and which of the 3 assistance levels is recommended	0.65
Between the score on the self care items in the screen (questions 6-7) and which of the 7 programs is recommended	0.54
Between the score on the behaviour item and which of the 3 assistance levels is recommended	0.27



# Summary and implications

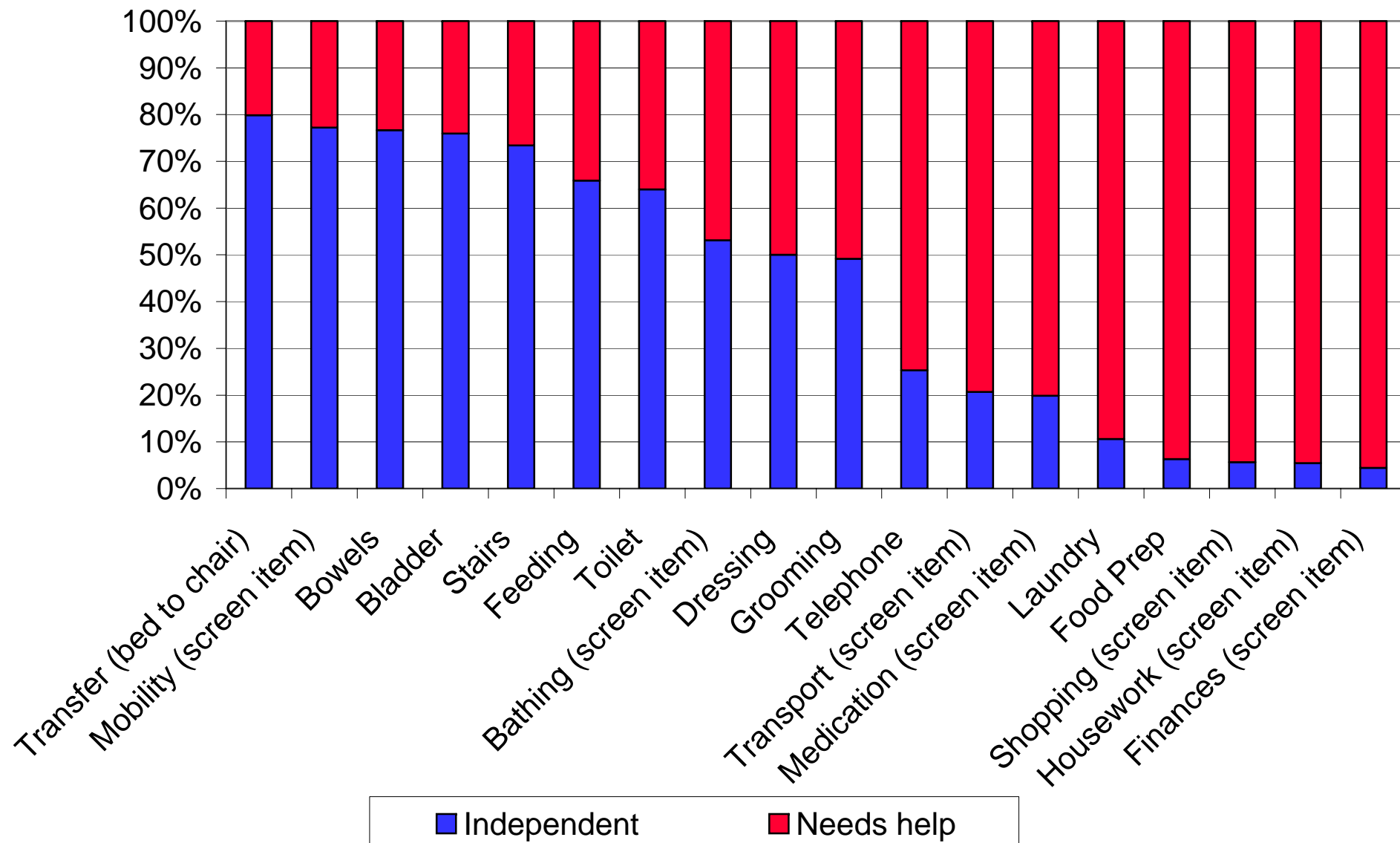
# The initial research questions

- ◆ Which measures of the person and their needs
  - ◆ eg, age, sex, disability, strengths, barriers, self care functioning, domestic functioning, behavioural functioning
- ◆ Best predict
  - ◆ the person's current and future capacity for work (with and without the recommended interventions) and/or
  - ◆ the interventions and type of assistance that the person needs?
- ◆ How do the results achieved with a short functional screen (undertaken by schools) compare with the results of a full functional assessment (by the CRS)? Correlation = 0.83

# The initial research questions

- ◆ If people lose functional abilities in the opposite order to which they acquire them, does the reverse hold true for the ATLAS population? **Yes**
- ◆ Do young people in the ATLAS program acquire functional abilities in a fairly predictable order? **Yes, but with a few exceptions**
- ◆ If so, what is the hierarchy of functional acquisition for consumers in the ATLAS program?
- ◆ Is the hierarchy of acquisition predictable enough to support screening? **Yes**
  - Can you assume that, if a person can do ADLs acquired late, they can also do ADLs acquired early? (if so, this supports screening)

# The hierarchy of functional acquisition



# The ATLAS population

- ◆ A high need group:
  - Only about 1/3rd have mastered self-care, only 1% have fully mastered domestic functioning and 70% have behavioural problems.
- ◆ In total, 82% are recommended to State funded programs and 18% to Commonwealth funded programs.
  - Those referred to Commonwealth programs have significantly better functioning and more capacity for improvement than those referred to State programs.

# The definition and measurement of 'need' for ATLAS services - 1

- ◆ Of all the measures captured, the best predictors of the type of assistance required were (in order) domestic functioning, self-care functioning and future capacity to work.
- ◆ Both domestic and self care functioning were better predictors of the type and level of assistance required than any of the variables typically assumed to determine need for ATLAS services (disability type, capacity to work and so on).

# The definition and measurement of 'need' for ATLAS services - 2

- ◆ Surprisingly, behavioural problems were not strongly correlated with the type or level of required assistance although behaviour is more useful than current work capacity, disability type or the number of disabilities.
  - Seems to be related to Can Do: Do Do
    - ◆ Those with very low function can't exhibit challenging behaviour as much
  - But more work still is needed to understand the relationship between behavioural functioning and the type or level of assistance required

# The tools for measuring need

- ◆ The technical performance of both the screening tool and the 3 assessment tools is satisfactory
- ◆ The screening tool works well and, with a correlation of 0.67, is a good predictor of the type and level of assistance required.
  - In fact, the short 9 item screen is a better predictor than either type or number of disabilities or behavioural functioning.
- ◆ But it does not perform quite as well as the more detailed domestic functional assessment.

# What happened in 2003

- ◆ DADHC used the results of this study to move towards an evidence-based practice model
- ◆ The results of the screening undertaken by teachers in 2002 suggest that the more detailed assessment is not necessary
- ◆ The 2003 tool used by teachers was:
  - the 9 item functional screen and
  - the behavioural assessment tool

# 2003 Method

- ◆ CHSD built a statistical regression model:
  - combining screening and assessment scores on particular items to allocate applicants to ATLAS programs.
  - aim was to match the CRS allocation as closely as possible.
- ◆ Result was a method of allocating applicants to an ATLAS day program, transition program or vocational training program based on a complicated combination of the applicant's scores on items across both the functional screening and the behavioural assessment instruments.

# 2003 results

<b>Allocation</b>	<b>No</b>	<b>Average total screen score</b>	<b>Range of screen scores</b>	<b>Average total behavioural assessment score</b>	<b>Range of behavioural assessment scores</b>
Day Programs	208	4.5	(0,16)	11.4	(5,20)
Transition programs	347	9.1	(2,18)	15.9	(5,20)
Vocational training	93	13.1	(10,18)	19.3	(9,20)

# The 2004 assessment model

- ◆ The 2003 tool used by teachers:
  - the 9 item functional screen and
  - the behavioural assessment tool
- ◆ Plus the domestic functioning assessment:
  - this was the best predictor in the original study
  - being added back in to increase the precision of the model and to help explain the role of challenging behaviour
- ◆ So, teachers are being asked to help with:
  - implementation of the model
  - further research to improve the model

# 3 tools, 4 parts, 22 questions

## ◆ Form 3 The HACCC Functional Screen

- Part One: 7 questions to complete in consultation with the school leaver (or a person such as a parent who represents the school leaver) on domestic and self care functioning
- Part Two: 2 questions for you to complete on cognitive and behavioural functioning

## ◆ Form 4 The ATLAS Behavioural assessment

- Part Three: 5 items for you to complete

## ◆ Form 5 The ATLAS Domestic ADL Assessment

- Part Four: 8 questions to complete in consultation with the school leaver (or a person such as a parent who represents the school leaver) on domestic and self care functioning

# The report

- ◆ Eagar K, Gordon R and Green J (2003) *NSW ATLAS Consumers and their Prospects*. Centre for Health Service Development, University of Wollongong.