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Follow-up of youths admitted to SiS youth care facilities 1997–2001

David Shannon

FORSKNINGSRAPPORT

Statens institutionsstyrelse SiS

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I föreliggande rapport presenteras de viktigaste resultaten från forskningsprojektet ”Uppföljning av ungdomar inskrivna på särskilda ungdomshem åren 1997–2001” (projektnummer 2002–0021) som leddes av professor Jerzy Sarnecki, Kriminologiska institutionen, Stockholms universitet.

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Sammanfattning

I föreliggande rapport presenteras de viktigaste resultaten från forskningsprojektet ”Uppföljning av ungdomar inskrivna på särskilda ungdomshem åren 1997–2001”. Övriga publikationer från projektet beskrivs på engelska i inledningskapitlet och tas upp i referenslistan. Projektet hade tre huvudsakliga syften:

- att presentera en uppdaterad bild av ungdomarnas, särskilt de unga männens, problem och en bild av komplexiteten i deras problem vid intagning på särskilda ungdomshem
- att undersöka sambandet mellan problemomfattning vid intagning och ungdomarnas vårdkarriärer inom ungdomshemmen
- att undersöka sambanden mellan problem vid intagning, ungdomarnas vårdkarriärer, och kortsiktiga utfall efter att ungdomarna skrivits ut från särskilda ungdomshem

I urvalet för studien ingår samtliga ungdomar som blev intagna på särskilda ungdomshem åren 1997–2001, och för vilka en inskrivningsintervju genomförts och registrerats i Statens institutionsstyrelses ADAD-databas (Adolescent Drug Abuse Diagnosis). Totalt handlar det om drygt 2 500 ungdomar, av vilka cirka 70 procent är pojkar. De data som används i analyserna kommer bland annat från ADAD-databasen och från Statens institutionsstyrelses klient- och institutionsadministrativa system (KIA). Till uppföljningen används i första hand data från misstankeregistret, lagföringsregistret, patientregistret och dödsorsaksregistret.

Huvudresultat

När det gäller frågan om typ och omfattning av ungdomarnas problem vid intagningen till de särskilda ungdomshemmen, visar en första granskning av placeringsorsaker som antecknats i ADAD och KIA-systemen att det fanns väsentliga skillnader i vilka problem som låg till grund för placeringen med hänsyn till ungdomarnas kön och ålder. Pojkarna placerades i mycket större omfattning på grund av brottsrelaterad problematik, medan psykisk ohälsa var vanligare som orsak till placering bland flickorna.

Ju äldre ungdomarna var vid intagning, desto mer dominerar missbruk bland placeringsorsakerna. Det gäller särskilt för flickorna, där fyra av fem i åldern 17 eller över vid intagningstidpunkten placerades helt eller delvis på grund av missbruksproblem. Motsvarande andel bland pojkarna var något lägre, 65 procent. I denna åldersgruppen är dock missbruk en lika betydelsefull grund för pojkarnas placeringar på särskilda ungdomshem som brottslighet.

En klusteranalys av kombinationen av problem som ungdomarna hade vid intagning på särskilda ungdomshem visade en stor variation i nivån och koncentrationen av problem. Det gäller både ungdomarnas beteende och deras psykosociala förhållanden. Oavsett åldersgrupp eller kön fanns det grupper av ungdomar med förhållandevis omfattande problem på flera olika områden (så kallade multiproblem-ungdomar), grupper med en relativt låg problemnivå på flera olika områden (så kallade lågproblem-ungdomar) samt grupper av ungdomar med stora problem inom ett eller två specifika områden och genomsnittlig eller låg problemnivå inom övriga områden. De ungdomar som helt eller delvis placerades på grund av missbruk hade en betydligt större sannolikhet att också uppvisa en högre koncentration av problem på andra områden. Detta gällde såväl flickor som pojkar.

I kapitlet om vårdkarriären hos ungdomar på särskilda ungdomshem presenteras data som visar att ungdomshemmens insatser i första hand handlar om att erbjuda relativt kortvariga akut- och utredningsplaceringar på mindre än tre månader. Över 40 procent av ungdomarna som ingår i studiens urval hade lämnat ungdomshemmet inom tre månader efter intagning. Närmare 60 procent av ungdomarna i urvalet skrevs ut utan att ha vistats på en behandlingsavdelning.

Det har även gjorts multivariata analyser av sambandet mellan ungdomarnas vårdkarriärer och ett antal andra variabler, inklusive indikatorer på ungdomarnas problemtyngd vid intagning. Analyserna visade ett signifikant samband mellan problemtyngd och sannolikheten för en mer ”ingripande” vårdkarriär i form av total vårdtid och placeringstid på en behandlingsavdelning. Samtidigt som flertalet ungdomar inte vistas särskilt länge, om ens överhuvudtaget, på en behandlingsavdelning visar således analysen att de ungdomar som faktiskt vistas på en behandlingsavdelning på det hela taget är de som har de största problemen vid intagningen. Därmed har de troligen också de största behoven av någon form av behandling.

När det gäller sannolikheten att en enskild ungdom ska vårdas vid ett särskilt ungdomshem över lång tid, är dock vare sig problemtyngden vid intagning eller placeringsorsak den bästa prediktorn. Den är snarare individens ålder. Trots kontrollen för till exempel intervjuarskattade hjälpbehov hos ungdomarna visade det sig att ungdomar i åldern 12–14 år vid intagning hade betydligt högre sannolikhet att få en placeringstid på minst ett år på en behandlingsavdelning jämfört med äldre ungdomar.
Uppföljningsmaterialet som hämtades från misstankeregistret och lagföringsregistret

visade att av de ungdomar som kunde följas upp under tre år efter utskrivning från ett särskilt ungdomshem hade 70–80 procent av pojkarna (beroende på ålder) registrerats som misstänkta i samband med nya brott. Andelen som hade dömts för nya brott under samma tidsperiod var nästan lika stor. Vidare hade en tredjedel bland den äldsta gruppen pojkar dömts till fängelse för nya brott.

Bland flickorna varierade andelen som registrerats i misstankeregistret i samband med nya brott under en treårsperiod efter utskrivning från ett särskilt ungdomshem, mellan cirka 35 och strax under 50 procent (beroende på ålder). Andelen som hade dömts för nya brott under samma period varierade mellan 28 och 43 procent. Endast ett fåtal flickor hade dömts till fängelse under treårsperioden.

Datamaterialet som hämtades från patientregistret visade bland annat följande: Andelen ungdomar som skrivits in på sjukhus med en alkohol- eller drogdiagnos eller med en psykiatrisk diagnos efter utskrivning från ett särskilt ungdomshem, var betydligt lägre än andelen som misstänkts för nya brott, särskilt bland de unga männen. Könsskillnaderna som framkom i patientregistret var mycket mindre jämfört med motsvarande skillnader i brottsregistren. Här var andelen flickor dessutom högre än andelen pojkar. Mellan 15 och 32 procent (beroende på ålder) av flickorna fick slutenvård på grund av alkohol- eller drogdiagnoser eller psykiatriska diagnoser under en treårsperiod efter utskrivning från ett särskilt ungdomshem. Motsvarande andel bland pojkarna var 9 och 26 procent.

Bivariata analyser som presenteras i kapitel 4 och 5 i rapporten visar främst att det finns en tydlig korrelation mellan placeringsorsak i ADAD och KIA-systemen och andelen ungdomar som registrerats i de undersökta registren avseende kriminalitet, missbruk och psykisk ohälsa efter att de skrivits ut från ett särskilt ungdomshem. Resultaten tyder också på att erfarenhet av missbruk innan intagning vid ett särskilt ungdomshem verkar vara den enskilt mest betydelsefulla faktorn när det gäller risken för fortsatta problem inom mer än ett av de områden som undersökts i uppföljningen.

Avslutande kommentarer

En nästintill omöjlig uppgift.
De särskilda ungdomshemmen har till uppgift att vårda och stödja några av de mest utsatta unga människorna i samhället. Detta är ingen enkel uppgift. Unga som tas in på särskilda ungdomshem har en mycket varierad och komplex problembild. Att kunna erbjuda tillräckligt differentierad vård för att möta dessa varierade individuella behov, är i sig en mycket stor utmaning. Även bland unga som placeras med relativt likartade problem finns ett spektrum av individuella faktorer som påverkar sannolikheten att de har utbyte av olika insatser, så kallade responsivitetsfaktorer (till exempel Andreassen, 2003; Hoge & Robertsson, 2008). Med detta i åtanke framstår de särskilda ungdomshemmens uppdrag som ännu mer komplicerat.

För att kunna infria eventuella förväntningar om starka positiva resultat av vården skulle det krävas att det nästan inte fanns några resursbegränsningar. I den bästa av världar skulle naturligtvis alla nödvändiga resurser ställas till förfogande. Dessvärre har inte de särskilda ungdomshemmen den förmån att bedriva sin verksamhet i en idealisk värld. Resurstillgången är snarare begränsad, vilket alltid är fallet inom den offentliga sektorn, och i slutändan är den också styrd av hur konkurrerande hänsyn hanteras och av hur prioriteringar görs på politisk nivå. De särskilda ungdomshemmens konkreta uppgift blir således att tillhandahålla den bästa möjliga vården utifrån de givna resursbegränsningarna.

Att prioritera med utgångspunkt i tillgängliga resurser
För att kunna uppnå sina mål i största möjliga utsträckning måste verksamheter med begränsade resurser själva prioritera olika ändamål och avgöra hur de kan utnyttja resurserna på bästa sätt. Att se till att de ungdomar som har de största problemen vid placering på ett särskilt ungdomshem också är dem man satsar mest resurser på, skulle i sammanhanget framstå som ett rimligt sätt att prioritera. Resultaten från denna studie visar att det faktiskt också ligger till på det viset. Ungdomarna utreds och bedöms i samband med inskrivningen, bland annat med hjälp av ADAD-instrumentet. De ungdomar som på basis av ADAD-data uppvisar de största problemen ser också ut att vara de som får tillgång till de största resurserna (mätt i form av insatser och vårdtid).

Samtidigt antyder också resultaten i studien att andra faktorer förutom ungdomarnas

problembild kan ha stor betydelse för hur lång tid de vårdas på särskilda ungdomshem. Ålder verkar till exempel vara en viktig faktor när det gäller sannolikheten att ungdomarnas vistelse blir kort- eller långvarig – även när man kontrollerar hur omfattande ungdomarnas problem bedöms vara vid intagning. En viktig fråga är därför huruvida unga klienter med omfattande problem faktiskt har större nytta av en längre vårdtid på institution jämfört med äldre ungdomar.

Kortsiktig kontinuitet – men ingen tillgänglig information om ”varför”

När det gäller frågan ”vad händer sedan”, det vill säga vad händer med ungdomarna efter att de lämnar de särskilda ungdomshemmen, antyder studien att det finns en kontinuitet mellan problemnivå och typ av problem innan inskrivning och sannolikheten för fortsatta problem efter utskrivning. De ungdomar som uppvisar de största problemen vid placeringen är också de ungdomar som i första hand dyker upp i olika utfallsregister efter utskrivningen. Utifrån datamaterialet är det inte möjligt att dra några slutsatser om eventuella ”behandlingseffekter”. Vi kan till exempel inte veta om ungdomarna i studien skulle ha uppvisat större eller mindre problem om de inte hade vårdats vid ett särskilt ungdomshem. Dock verkar de mer intensiva insatser som ungdomar med de största problemen får del av inte verka räcka till för att reducera risken för fortsatta problem till samma nivå som bland klienterna med mindre omfattande problem vid intagning. Det är det enda vi kan säga om detta. Med det sagt har vi ingen information om vilka miljöer dessa högriskungdomar vistas i efter utskrivning från ett särskilt ungdomshem. Inte heller har vi information om eventuella negativa effekter av eftervårdsmiljön på risken för fortsatta problem.

Institutionalisering, behandlingseffekter och framtida livschanser

Det har sedan länge funnits en stark debatt inom forskningen om nyttan eller onyttan av institutionsvård, särskilt när det gäller ungdomar med kriminell problematik. Tyvärr är forskningen inte på något sätt entydig. Vissa menar exempelvis att institutionsvård i sig innebär risker som bättre kan undvikas genom vård i icke-institutionella former (till exempel Smith, 2005; Greenwood, 2005). De negativa aspekter av institutionsvård som diskuteras i forskningslitteraturen handlar om att institutionalisering stör ungdomarnas anknytning till skyddsfaktorer och har en negativ effekt på deras relationer till såväl sina familjer som pro-sociala kamrater. Vidare diskuteras att den innebär ett avbrott i den pågående skolgången och ytterligare försvagar anknytningen till skolan (till exempel Lowenkamp & Latessa, 2004). Forskningen har även pekat på risken för så kallad avvikelseträning när högriskungdomar vårdas i grupper, eftersom de har en tendens

att med tiden förstärka varandras antisociala beteenden (till exempel Dishion et al., 1999; Ferrer-Wreder et al., 2005). Andra forskare menar däremot att risken för sådan avvikelseträning är överdriven (till exempel Guerra et al., 2008).

Institutionsplacering kontra behandling utanför institution kan dock vara en mindre viktig faktor för möjligheten att uppnå positiva effekter av behandling, än att personalen har korrekt utbildning, följer programmens riktlinjer troget samt klarar av att behålla många deltagare kvar i insatsen i fråga. Det menar den de senaste systematiska översikterna av behandlingsforskning. (Söderholm Carpelan et al., 2008; Lipsey, 2009; järmför Brottsförebyggande rådet, 2009).

Utvärderingsforskning av behandlingsprogram med ambition att reducera risken för fortsatt antisocialt beteende antyder också att det inte bara är institutionsbaserade behandlingsprogram som har svårigheter att konsekvent uppvisa stora positiva effekter. De systematiska studier som gjorts på området visar i allmänhet att man inte heller i öppenvården kan förvänta sig mer än små till medelstora genomsnittliga effekter på fortsatt antisocialt beteende på kort sikt (till exempel Söderholm Carpelan et al., 2008; järmför Brottsförebyggande rådet, 2009).

I sin omfattande genomgång av forskningen inom området institutionsvård av unga, hävdar Andreassen (2003) att institutionsvård kan minska risken för fortsatta beteendeproblem men att de utfallsstudier som gjorts på området visar stora variationer i effekterna av behandlingsprogram inom institutionsvården. Även när effekterna är positiva antyder forskningen att de genomsnittliga effekterna är ganska små. Det är, enligt Andreassen, också relevant att fråga om dessa måttliga effekter kan försvara institutionsvårdens höga kostnader och användningen av tvång, särskilt med tanke på att tvångsvård nästan alltid innebär en allvarlig kränkning av ungdomarnas personliga integritet.

Longitudinell forskning, där högriskungdomar följs från barndom genom tidig vuxenliv och även senare i livet, understryker betydelsen av den kumulativa ofärden. Man pekar på att användningen av institutionsplacering, till exempel som en reaktion på brottslighet, kan innebära att man intensifierar effekterna av redan befintliga problem när det gäller risken för marginalisering och fortsatt kriminalitet i vuxenlivet (cf. Nilsson & Estrada, 2009; Laub & Sampson, 2003). Denna forskning poängterar samtidigt att även högriskungdomars vuxenliv kan innehålla många olika möjligheter. Forskarna

menar att när individer klarar av att utnyttja dessa möjligheter kan de ta sig ifrån den svåra, osäkra och stressande livsstil som ofta är förknippad med kriminalitet och missbruk till en mindre självdestruktiv och mycket mer meningsfylld och givande tillvaro. I korta ordalag tyder forskningen på att livschanserna kan förbättras dramatiskt vid nästan vilken ålder som helst, genom ett brett spektrum av faktorer på flera olika livsområden.

På lång sikt är således det som händer med ungdomarna under deras institutionsplacering bara en liten del i ett komplex av risk- och skyddsfaktorer som påverkar sannolikheten att de kommer att ha fortsatta problem i vuxenlivet. Likaså påverkar faktorerna chanserna att ungdomarna förr eller senare förflyttar sig från ett liv på marginalen.

Den långsiktiga utmaningen för forskningen

Å ena sidan kan vi således säga att forskningen om effekter av behandlingsinsatser visar följande: Även den mest effektiva behandling av allvarligt problembeteende hos unga kan i bästa fall kan producera små eller måttliga effekter på risken för fortsatt antisocialt beteende på *kort* sikt. Å andra sidan visar longitudinell forskning att andra, tillsynes icke-behandlingsrelaterade, faktorer kan ha stor betydelse för förbättrade livschanser på *lång* sikt.

Med detta i åtanke kan det vara dags för forskarsamhället att lägga mer tid och resurser på att granska och reda ut frågan om hur mycket kortsiktiga utfallsmått, rörande till exempel fortsatt antisocialt beteende faktiskt betyder i sig. Forskning kan bland annat belysa det komplexa förhållandet som tycks råda mellan sådana utfall på kort sikt och ungdomarnas välfärd och livschanser på lång sikt.

För att kunna ge en bättre och mer realistisk bild av vilken roll institutionsvistelser spelar för ungdomarnas fortsatta liv, behövs långtidsuppföljningar. Den forskningen behöver, i motsättning till föreliggande rapport, inte begränsa sig till studier av problemen innan inskrivning, tiden på institution och ett fåtal kortsiktiga utfallsmått. Forskningen bör också samla data på flera andra livsområden efter att ungdomarna skrivits ut. Helst skulle dessa data inte bara belysa kvantifierbara ”problem” utan också inkludera kvalitativ kunskap. Det skulle möjliggöra en förbättrad förståelse för de mekanismer som gör att olika livshändelser innebär förbättrade livschanser, liksom för de potentiellt positiva och negativa effekter av institutionsvård på sådana mellanliggande mekanismer.

Att bedriva sådan forskning är vare sig billigt eller lätt och innebär att man måste ta ställning till viktiga etiska frågor. Men det är viktigt att man försöker bedriva sådan forskning. Kortsiktiga studier av behandlingseffekter är uppenbarligen värdefulla för att öka kunskapen om vilka insatser som är mer eller mindre lovande när det gäller effekterna på unga människors exponering för eller involvering i specifika kvantifierbara problem och beteenden. Men vi behöver också betydligt mer kunskap om långsiktiga effekter, särskilt när det gäller faktorer och mekanismer som påverkar relationen mellan kortsiktiga effekter av institutionalisering och långsiktiga utfall över vuxenlivet.

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1. Introduction

This report presents central findings from the project: Follow up of youths admitted to SiS youth care facilities 1997–2001.[1]

1.1 Background

In Sweden, youth justice has historically been treated primarily as a youth-welfare problem. Youths involved in crime and drug use therefore constitute a substantial group among those teenagers placed in social services care, and for some decades now, Sweden has had a special category of residential institutions, known as special approved homes [2] specifically devoted to the care of youths deemed to require "particularly close supervision".[3] For the youths concerned, this need for close supervision may be a result of involvement in crime, drug use or other socially destructive behaviour, or of the youth having been spending time in an environment deemed to be such as to place his or her health or development at risk (e.g. Hessle & Vinnerljung, 1999; Knudsdotter Vanström et al. 2004). Since 1993, Sweden's special approved homes have been centrally administered by the National Board of Institutional Care (Statens institutionsstyrelse – SiS). At the time of writing, there are 35 special approved homes in Sweden with approximately 700 places. Every year approximately 1000 youths aged between twelve and twenty are admitted to these institutions, around 70 per cent of whom are males (cf. Statens institutionsstyrelse, 2006).

The majority of special approved home clients are placed by means of compulsory care orders in accordance with the *Care of Young Persons (Special Provisions) Act* of 1990, more commonly known as the LVU Act.[4] Two other pieces of legislation are also used in connection with these placements however. The Social Services Act (SoL[5]), serves as the basis for admissions for youths experiencing problems deemed to require a special approved home placement where such provision is possible with the consent of the parents or the youth (depending on whether the young person is under fifteen years of age). Since 1999, special approved homes have also included admissions in accordance with the *Youth Custody Act* (LSU[6]), by means of which youths aged between fifteen and

1 SiS research project number: 1.2002/0021.3

2 Swedish: Hem för särskild tillsyn, or Särskilda ungdomshem.

3 Swedish: "särskild noggrann tillsyn".

4 Swedish: Lag (1990:52) med särskilda bestämmelser om vård av unga.

5 Swedish: Socialtjänstlagen 1980:620.

6 Swedish: Lag (1998:603) om verkställighet av sluten ungdomsvård.

seventeen convicted of committing serious offences, and who would previously have been given a prison term, are instead sentenced to a period of secure institutional treatment in a home administered by SiS (cf. Kühlhorn, 2002).

In keeping with the requirement of being able to keep their clients under particularly close supervision, and unlike other residential care homes for young people in Sweden, special approved homes have the right to resort to the use of compulsion to keep their residents in place, and many have lockable secure units. They also have the right to place violent youths in solitary confinement on a temporary basis, and to perform body searches (cf. Bergström & Sarnecki, 1996; Hessle & Vinnerljung, 1999).

While the special approved homes constitute an important element within the youth justice system in Sweden, not least providing the means needed to follow the long established principle that youths should not be placed in the same institutions as adult offenders is (e.g. Janson, 2004), it would be wrong to portray the clientele of these institutions as being exclusively comprised of young offenders. It is true that special approved homes play host to a large proportion of Sweden's most serious young, institutionalised offenders, and particularly of those under the age of eighteen (cf. Shannon, 2006b), but research examining the problems experienced by youths admitted to special approved homes has found these to range across a broad spectrum of behavioural and psychosocial fields (e.g. Sarnecki, 1996) including not only involvement in crime and drug use, but also a range of mental health difficulties, and also substantial problems at school and in the home environment. In a study focusing specifically on females admitted to special approved homes, Berg (2002), in addition to confirming the broad range of problems presented at admission described by Sarnecki, also noted a substantial variation in both the *level* and *concentration* of problems across these different areas among those admitted to special approved homes.

Admissions to SiS youth care institutions result in both longer 'treatment' placements, and shorter-term placements whose objective may primarily be to provide short-term residential care for a youth in acute need of removal from a harmful environment, or for the purposes of assessing a specific youth's problems and needs (cf. Söderholm Carpelan & Hermodsson, 2004:111). The average length of stay in SiS homes has been estimated at approximately 5½ months, but the short-term acute and/or assessment placements, which may last no longer than a few days or weeks, tend to exert a downward pressure on this estimate, and the length of stay in treatment units can vary between a few months and upwards of three years, and may on occasion involve moves between a number of different special approved homes (cf. Riksdagens revisorer, 2002:35).

Combining what is already known about the nature of the problems presented by the special approved homes' clientele and the nature of their care careers in these institutions, then, there is considerable variation in both areas. As regards the youths' problems, there are substantial inter-individual differences as regards both the nature and

the extent of the problems presented at admission. And there are also substantial inter-individual differences as regards the length of time spent in SiS care, with many youths spending a shorter or longer period of time in some form of treatment unit, but with a substantial number, as will be illustrated later in this report, spending a relatively brief time in one or more special approved homes without spending any time in a unit of this kind. No research has to date examined the relationship between the extent of problems at admission and the nature of the care career at the national level, however.

Reviews of existing research have noted that follow-up studies focusing on the youths admitted to special approved homes make rather depressing reading (cf. Hessle & Vinnerljung, 1999; and for a comprehensive historical overview of Swedish follow-up studies in this area see Levin, 1998:244ff.). Without exception, these studies show that continued behavioural and psychosocial problems, in terms of crime, drug use, mental health problems and difficulties finding and keeping jobs etc. very much constitute the rule rather than the exception following the youths' release from these institutions. A recent study of youths released from treatment units based on follow-up interviews (Nordqvist, 2005) indicates, however, that the youths' problems in at least certain areas (mental health, crime) were less extensive approximately one year subsequent to release than they had been at admission. The prevalence and extent of substance abuse problems, by contrast, had increased by the time of the follow-up interview, although the report notes that this may at least to some extent be explained by age effects (ibid.).

In many ways, the picture of continued problems found in follow-up research is not to be considered surprising, since there is now a considerable body of research suggesting that antisocial and other problem behaviours are often relatively stable over the transition from adolescence to young adulthood (e.g. Sarnecki, 1985; Sampson & Laub, 1993). The research further suggests that, at least in part, this is a result of the way in which maladaptive behaviours, both through the accumulation of their own harmful consequences, and by evoking continued negative responses from others, tend over time to become self-reinforcing (Caspi et al., 1987).

1.2 Study objectives

Against this background, the broad objectives of the current study have been threefold:

1) To provide an updated picture of the range of problems and problem combinations presented by youths at admission to special approved homes, with a particular focus on the male clientele.
2) To examine what relationship exists between the extent of problems at admission and the nature of the youths' care career in special approved homes.
3) To examine the relationship between the extent of problems at admission, the na-

ture of the youths' care career, and short-term outcomes subsequent to the youths' release from special approved homes.

Focusing on youths admitted to special approved homes during the period 1997-2001, the study thus looks first at the range of problems presented at admission, and then at the youths' length of stay in SiS care, and whether this stay has primarily involved an acute/assessment placement or has included a stay in a unit dedicated to the provision of some form of 'treatment'. It also looks at the post-care career of the youths up to three years subsequent to their release from special approved homes. The central goal of the project has been that of producing a general overview of the relationship between the extent of problems at admission, the type of care career undergone in special approved homes, and the post-care career experienced by the youths, with the principal focus here being directed at subsequent problems involving drugs and alcohol, registered mental health problems and involvements in crime.

In addition, the report examines the way two different measures of the youths' "problem-load" at admission correlate with the measures of the youths' care career and their registered problems subsequent to release from special approved homes, the one based on a person-oriented analysis of the youths' self-reported problems at admission, the other a much simpler measure based on the interviewers' estimation of the level of help required by the youths across the different problem areas examined in the study.

1.3 Data sources

The data sources employed include the ADAD (Adolescent Drug Abuse Diagnosis) research database maintained by Statens institutionsstyrelse, and the agency's client administrative database (KIA). Follow-up data are drawn from the national Register of Suspected Offenders (misstankeregistret), the national Register of Convicted Offenders (lagföringsregistret), the register maintained by the National Prisons Administration of persons admitted to prison service institutions (kriminalvårdsregistret), the Cause of Death Register (dödsorsaksregistret) and the Hospital Discharge Register (patientregistret). The initial intention was also to employ the Register of Measures for Children and Youth (registret över insatser för barn och unga - also known in Swedish as the historiska barnavårdsregistret, cf. Vinnerljung et al., 2001). Once these data had been collected, however, it was found that the dates contained in the register often presented a very poor match in relation to the time spent in special approved homes according to the KIA database maintained by Statens institutionsstyrelse. Previous studies have also found this register to be problematic as regards both the timing of placements and the nature of the placements involved (e.g. non-residential, foster-home, residential care without special supervision, special approved home - cf. Vinnerljung et al., 1999, 2001). The decision was therefore taken to exclude these data from the follow up.

ADAD:
Background information and the data employed to specify the nature of the youths' problems at admission to special approved homes are drawn from the ADAD research database maintained by Statens institutionsstyrelse. In addition to background information on e.g. age and gender etc., the database includes information relating to nine so-called life-problem areas, including alcohol and drug use, crime, mental health, the family, school and the peer group. The data employed in the current study have been collected by means of a single structured interview conducted by trained staff, for the most part within one to two weeks of the youths' admission to a special approved home. These interviews are based on the Swedish version of the Adolescent Drug Abuse Diagnosis instrument developed in the USA by Friedman & Utada (1989), and adapted slightly to conditions in Sweden (cf. Söderholm Carpelan & Hermodsson, 2004). Each section of the instrument includes a number of questions, producing data which can then be scaled to provide broad measures of the level of problems in a given area. The database also includes an interviewer rating of the level of assistance the youth is deemed to require in each area.

Extensive analyses of the psychometric properties of the ADAD instrument have been conducted in the USA by Friedman and Utada (1989) and also of a Swiss version (Bolognini et al., 2001). Similar analyses of the Swedish version of the ADAD instrument have been conducted by Börjesson et al. (2007). The conclusion drawn by all three studies is that the ADAD interview appears to constitute a psychometrically sound instrument for assessing the severity of adolescent problems and adolescents' treatment needs.

KIA:
Data on the youths' stay in special approved homes is drawn from the SiS client administrative database (KIA). This database contains information on amongst other things the length of a youth's stay in special approved homes, broken down into the time spent in different units at the home or homes at which an individual has stayed over the course of his or her period in care. This database is used inter alia for the purposes of billing the local authorities' social services administrations in connection with youth placements. In order to determine whether or not the youths' stay in care had involved a stay in a treatment unit, the data from KIA were then supplemented with information collected from the different approved homes' plans of operations for each year covered by the study. The information collected related to which units were acute and /or assessment units and which were treatment units during a given year. This coding involves a certain amount of uncertainty in as much as a small number of units shifted function from assessment to treatment and vice versa over the course of the study period. In these cases it was not possible to specify the exact date during a given year at which the change in function had taken place. When an individual was placed in a unit recorded as an assessment unit in a given institution's plan of operation for the year in which this placement took place, but which was then recorded as a treatment unit the following year, there is some uncertainty as to whether the individual was in

fact placed in an assessment or a treatment unit. Over the course of the individual care career as a whole, however, the number of cases likely to have been wrongly-assigned to the various categories of the care career variable employed in the analyses presented later in the report is deemed to be very small.

National Register Suspected Offenders:
The principal indicator of involvement in crime subsequent to release from special approved homes is based on the Register of Suspected Offenders (Misstankeregistret). The register records all those persons linked as suspects to offences reported to the police. Descriptive data are also presented from the Register of Convicted Offenders, and from the Prison Service Register, although following the tenets of what has become known as "Sellin's dictum" (which at its most simple level argues that official measures of crime become a less reliable measure of actual crime patterns the further these measures lie from the crime itself – Sellin, 1951; cf. Coleman & Moynihan, 1996) these are regarded as secondary in terms of their value as an indicator of criminal activity at the individual level.[7] The Register of Suspected Offenders is also employed as one of two indicators of substance abuse problems subsequent to release from special approved homes, with this indicator being formed on the basis of crime codes relating to alcohol (e.g. drink driving, offences against the Alcohol Act) and drug offences (e.g. possession/use of narcotics, sale of narcotics and driving under the influence of narcotics).

It is now well-established that all measures of officially recorded crime (and indeed all measures of crime) are subject to a number of validity problems. These relate to such factors as the existence of substantial differences in the risk for detection and in the likelihood that a crime will be linked to a suspect across different offence types and offender characteristics, and the exercise of police discretion in the recording of offences and offenders (e.g. Cohen, 1986). It is also accepted that officially recorded crime data underestimate (and in the case of high frequency offenders often greatly underestimate) the number of offences actually committed within a given time frame (e.g. Farrington, 1992). Furthermore, in relation to the current sample, the variation in the age of the youths included in the study sample also presents problems. Whilst individuals under the age of criminal responsibility (fifteen years) are clearly included in the Register of Suspected Offenders, discussions with police personnel as to the regulations governing whether or not they should in fact be so recorded indicated that police praxis in this regard may well vary quite substantially both within and across different police authorities, and it seems very likely that data from the Register of Suspected Offenders are less valid as an indicator of crime patterns among those below the age of fifteen than among those aged fifteen and over. For this reason a number of the analyses presented in the final section of the report are restricted either to youths aged fifteen or over at the time of their release from care, or to youths aged fifteen or over at the time of their admission to care.

7 The Register of Suspected Offenders includes data on whether or not the suspicions against the youths included in the study remained at the conclusion of the police investigation and it was at this point that the data employed in the follow-up were collected.

Having made these observations, official crime data do have a number of advantages in relation to alternative measures in the context of longitudinal studies in particular. Among the more important of these are that they eliminate the problem of selective attrition associated with longitudinal self-report studies, and also that they include more reliable information than can be collected from self-reports, for example, on the timing of offences. In summary, register data on crime may provide a relatively poor picture of actual offending frequencies, but are nonetheless deemed adequate for dealing with questions of prevalence (in the current instance whether or not a given individual commits at least one offence within a given time frame) and criminal career duration (whether an individual continues to commit offences over an extended period of time) (e.g. Farrington, 1992).

The Hospital Discharge Register:
Data from the Hospital Discharge Register (Patientregistret) are employed as indicators of both substance abuse problems (together with the data on alcohol and drug offending from the Register of Suspected Offenders) and also mental health problems. As a means of identifying youths admitted to hospital with problems of these kinds, the ICD[8]-10 classification code has been employed. Admissions involving either a principal or secondary diagnosis relating to alcohol or drugs (ICD-10 codes F10 to F19) have been coded as indicating the presence of substance abuse problems subsequent to the youths' release from special approved homes.

The indicator used for mental health problems subsequent to release from special approved home care is based on the ICD-10 codes F00 through F99 (with the exception of codes F10 to F19).

The Hospital Discharge Register is administered by the Centre for Epidemiology at the National Board of Health and Welfare, and includes data on all occasions of public, in-patient care in Sweden. The register also includes data on the dates of admission and discharge from inpatient care, but does not include information on instances of outpatient care.

Given that the register only includes data on persons admitted to hospital, these data cannot be regarded as a particularly exhaustive indicator as regards the presence of substance abuse or mental health problems subsequent to the youths' release from SiS care. At the same time, they may be regarded as capturing at least the most serious health problems experienced by the study sample in the areas of substance abuse and mental health.

8 International Classification of Diseases and Causes of Death

The Cause of Death register:
The Cause of Death register, also administered by the Centre for Epidemiology, includes information on deaths of Swedish residents, irrespective of whether the deceased was a Swedish citizen or not. The register includes amongst other things information on the underlying cause of death (i.e. the disease or injury that initiated the chain of diseases that finally resulted in death or the circumstances of the accident or the act of violence that caused a lethal injury). The register also includes information on contributory causes of death (i.e. factors that contributed to the death, but which did not arise as a result of the underlying cause of death).

1.4 The study sample and its representativeness

The study sample includes all those youths admitted to special approved homes in Sweden between 1997 and 2001 for whom an admission interview has been registered in the ADAD-database. In total the sample comprises 2,562 youths of whom 1,775 (approximately 70 percent) are males. There are two principal reasons that youths admitted to special approved homes may be absent from the ADAD database. On the one hand, youths interviewed are given the opportunity to decline the inclusion of their data in the research database, and since its introduction in 1997, approximately ten per cent of those interviewed per year have done so (cf. Statens institutionsstyrelse, 2003, 2004). In addition to the youths not agreeing to submit their data for inclusion in the research database, there is an additional, larger source of attrition since not all youths admitted to special approved homes are in fact interviewed. The reasons for this vary, and include the stay at a home being too brief, shortcomings in the routines in place at certain institutions, or the youth being deemed to be in too poor a condition for interview (cf. Statens institutionsstyrelse, 2003; Nordqvist, 2005). In order to examine the potential effects of these missing cases on the representativeness of the study sample, an analysis was conducted comparing the youths included in the ADAD database with those youths registered as having been admitted to special approved homes during the study period in the SiS client administrative database (KIA), but for whom no ADAD interview had been recorded.

On the basis of the number of individuals registered in KIA, the proportion of cases missing from the sample is estimated at approximately 35 percent of those admitted to special approved homes during the study period. In order to respect the desire for confidentiality expressed by those not wishing to have personal information included in the ADAD database and thus used for research purposes, the variables examined were kept to a minimum and besides age and gender were limited to data relating to administrative aspects of the youths' stay in institutional care, such as the legal grounds for admission, the length of institutional stay, the type of unit to which they were originally admitted (acute/assessment, treatment, detox.), levels of absconding during their

stay in care and the proportion readmitted to SiS care within six months of their initial release.

Among the boys, the missing cases contained a slightly higher proportion of youths aged eighteen and over (23% of those missing from the research database as against 17% of the sample), and a slightly smaller proportion of youths aged 15-17 (58% and 63% respectively). Once controls were then included for age, however, no significant differences between the sample and the missing cases were noted in relation to the majority of the remaining variables (legal grounds for admission, the proportion readmitted within six months of release, absconding). Slight differences were noted among the older boys (aged eighteen or over) in relation to the length of stay in care, with youths not included in the ADAD database being slightly more likely to be institutionalised for less than three months, and the same was true in relation to girls aged 15 17. Besides these differences in the proportions released relatively quickly from special approved homes, the only other significant difference was noted in relation to the type of unit to which individuals were initially admitted. Here, once again among the older males, the missing cases included a somewhat higher proportion of youths admitted directly to treatment and detox units and a somewhat smaller proportion admitted in the first instance to acute/assessment units. An examination of levels of self-reported problems at admission to these different types of units *within* the study sample suggests that the missing cases are likely to include a slight over-representation of high-problem youths. The likely effects of these differences for the findings should not be over-estimated, however, since for all age-groups and among both the cases included in the research database and those missing from it, acute/assessment placements accounted for the vast majority of admissions.

1.5 Subdivision of the sample – and the employment of a 'case', rather than an 'individual' approach

The distribution of many of the problems associated with the likelihood of a special approved home placement (e.g. involvement in crime or drug use) is significantly associated with age within normal populations of young people. At the same time, it seems likely that the level of involvement in a certain behaviour deemed to constitute a 'problem', for example, or to be associated with a substantial risk for continued or escalating problems in the same or other areas, will vary with age. To take a very simple example, drinking a given amount of alcohol two or three times a week would be considered somewhat less of a problem at age nineteen than it would at age twelve. In the context of

analyses such as those presented in the next section of the report, whose objective is to divide a sample into relatively homogeneous groups on the basis of their self-reported problems across different dimensions, there is a risk that if no attempt is made to control for age, this variable may have a confounding effect on the results, locating youths of widely divergent ages, but with the same scores on a given combination of problem indexes, in the same cluster, even though these problem scores may reflect quite different de facto levels of problems for the youths concerned.

In addition, there are what we may term 'structural factors' that affect the likelihood that persons with certain types of problem will be placed in special approved homes at a given age. To take one example, the youth justice legislation in Sweden differentiates between youths aged fifteen to seventeen and youths aged eighteen and over when it comes to the question of a possible prison sentence following a conviction for serious offences. For youths aged fifteen to seventeen, *exceptional cause*[9] is required to place a youth in adult prison, and since 1999, when the Youth Custody Act came into force, the number of youths below the age of eighteen placed in Swedish prisons has been negligible (cf. Sarnecki, 2005; Janson, 2004:421). From the age of eighteen, however, only *special cause*[10] is required to place a youth in prison and a smaller proportion of those convicted of offences in this age-group are therefore remanded by the courts into the care of the social services (cf. Sarnecki, 2005).

For these reasons, the analyses have been conducted on the basis of a division of the sample into three age-groups. These groups comprise youths aged 12-14, youths aged 15-16 and youths aged 17-20 at the time of admission to special approved homes.[11]

This division into age-groups also allows the findings to reflect the work of special approved homes in relation to the question of age a little better than if the analyses focused on youths of all ages simultaneously. A significant minority of youths are admitted to special approved homes on more than one occasion, and over the course of a period such as that examined in the present study, the same individual may be admitted, for example, both as a fourteen year old, and as an eighteen year old. By dividing the sample into different age-groups, it becomes possible to employ what may be termed a 'case' approach, with a 'case' referring to an admission and a stay in special approved home care, rather than to an individual. On the basis of such an approach, an individual may be included in more than one subsample. Thus a youth who during the period 1997–2001 was admitted for the first time to a special approved home at age 14, and was then subsequently admitted again at age 18 prior to the end of the sampling period,

9 Swedish: "synnerliga skäl".

10 Swedish: "särskilda skäl".

11 The initial intention was to have an age-based division of the sample where the oldest sub-group was aged 18–20 (thus mirroring the legal cut-off for the requirement of *special* rather than *exceptional* cause in relation to prison sentences among young offenders). It was found however that the 18–20 year old age group included too few individuals, particularly among the female clients, to allow for meaningful analyses.

may be included in both the 12–14 year-old and the 17–20 year-old subsamples.[12] It was felt important to make the attempt to include youths readmitted in an older age-group where possible, since youths who are readmitted to special approved homes over a period of several years are likely to be those with the most substantial problems, and their exclusion from the older subsamples would be likely to involve an underestimation of the level of problems experienced by the youths that comprise the special approved homes clientele in these older age-groups. Once the sample had been transformed to include as cases those who had been admitted in more than one age group, the 2,562 individuals instead became 2,649 'cases'.

1.6 Additional publications from the project

In addition to the research conducted within the project on the basis of the relatively broad questions outlined above, which constitute the focus for this report, three additional, rather more narrowly focused, studies have been published based on the material collected in connection with the current project.

Chronic offenders or socially disadvantaged youth.

The first of these publications (Shannon, 2006a), compares levels of social disadvantage and criminal activity respectively among males aged 15-16 admitted to special approved homes with those of a nationally representative school sample of males of comparable age. The study noted that, not surprisingly, mean levels of offending were significantly higher among institutionalised males than they were in the school sample. However, the institutional population nonetheless include youths from across the entire range of levels of offending. Levels of social disadvantage across a number of indicators based on parents' occupational and employment status and family structure (e.g. coming from a broken home and/or a single parent household) were much higher among the institutionalised males than within the school sample. The study also noted a number of similarities between the nature of background problems and the range of levels of involvement in crime reported within the institutional sample, and the findings from research focusing on the life histories and criminality of street youth in North America (Hagan & McCarthy, 1997).

12 A number of the self-reported behavioural variables examined in the study relate to behaviours engaged in over the course of the year prior to the admission interview, and data of this kind are of course likely to be adversely affected by the inclusion of youths who are known to have spent a substantial segment of the last twelve months under close supervision of the kind provided by special approved homes. A balance therefore had to be struck between the desire to avoid excluding too many of the youths who had been readmitted to special approved homes in one of the older age-groups, and the desire to avoid including youths in later subsamples where too little time had passed between their prior release from special approved home care and their readmission interview. Only including those youths for whom an entire year had passed between their release from a special approved home and their readmission to such a home would have meant excluding the vast majority of those youths readmitted in later age-groups. In the end it was decided that such youths would be included in more than one subsample provided that a period of at least nine months had elapsed between their release from special approved homes following the admission in the younger age-group, and their readmission in the older age-group.

Exploring for the presence of possible discriminatory mechanisms in the processes leading to placements in special approved homes as a result of involvements in crime.

The second study (Shannon 2006b) focuses on youths admitted to special approved homes in whole or in part as a result of involvements in crime, and examines whether there is any evidence to suggest the operation of discriminatory mechanisms in the processes leading to the placement of Swedish and immigrant youth respectively in special approved homes as a result of their criminal activities. On the basis of crime data drawn from a number of different sources, the study finds no firm evidence to suggest that youths with an immigrant background had been institutionalised in connection with significantly lower levels of crime than their counterparts with a completely Swedish background. Nor were differences found between youths from a Swedish and non-Swedish background respectively as regards either their length of stay in SiS institutions, or whether or not their care careers had involved a stay in treatment units. On the basis of a comparison with the proportions of youths from a non-Swedish background found among the most delinquent segments of a representative sample of school youth, and among registered offenders, however, the institutional sample was found to contain a substantial over-representation of youths from an immigrant background by comparison with the proportion such youth comprised of the most delinquent five percent of the school sample. At the same time, this level of over-representation decreased substantially when the focus shifted to a comparison with youths registered as crime suspects, and decreased still further when ADAD sample was compared with those youths convicted of (primarily violent) offences against the person.

The study concludes that if the assumption is made that the social services proceed on the basis of the population of youths that has already been "drawn into the system" by means of contacts with the police, then the data indicate that first-generation immigrants may be somewhat over-represented among the youths admitted to special approved homes in whole or in part as a result of involvement in crime. There is little evidence however to suggest that social services are placing a substantially larger proportion of serious young offenders from immigrant backgrounds in special approved homes than of offenders from a Swedish background with similar levels of *official* involvement in crime. At the same time, it cannot be ruled out that there may be perhaps quite powerful discriminatory mechanisms in operation at the "street end" of the criminal justice process, whereby youths from an immigrant background are indeed more likely to be sucked into the system than their Swedish counterparts with similar levels of offending. If this were the case, then the work of the social services might rather be seen as *reproducing* the biases inherent in the system as a result of the presence of these mechanisms.

A criterion validation of the self-report crime items included in the ADAD-instrument.

The third study (Innala & Shannon, 2007) presents findings from a validation study of

the items measuring self-reported involvement in crime in the ADAD instrument. The validation compares the youths' self-reported offending over the year prior to their admission to special approved homes, with their registered offending as recorded in the Register of Suspected Offenders described above. Three different validation methods were employed in the study, each of which focuses on a different aspect of a self-report instrument's ability to capture differences in levels and patterns of offending within a youth population. The results show that the ADAD instrument differentiates successfully between groups whose levels of delinquency are expected to differ and that correlations between measures of registered and self-reported delinquency are positive and of a size that is well towards the upper end of the range reported in previous validation research. Whilst there are important differences between the ADAD population and the populations employed in previous validation studies, it is nonetheless possible to say that the ADAD instrument appears to function as well within its own target population as other instruments subjected to validity tests have functioned within theirs. The central area of concern in relation to the ADAD data relates to the question of under-reporting. Here, the findings suggest that the present sample contains a small group of relatively high frequency offenders who may be deliberately attempting to conceal the full extent of their involvement in crime at interview.

1.7 Organisation of the remainder of the report

The remainder of the report is divided into four main sections. The following section begins by focusing on the range of problems presented by youths at admission to special approved homes, presenting first data on the reasons underlying the youths' placement in special approved homes by age and gender, and then moving on to a descriptive analysis of the range of problems and problem combinations presented by youths at admission. The section concludes with a presentation of the two measures of the youths' "problem-load" at admission that are employed in the later sections of the report.

The subsequent section then presents a categorisation of the care careers undergone by youths admitted to special approved homes, and examines the effects of amongst other things age and problem load on the likelihood of having different types of care career. The final two sections of the report focus on the data from the follow-up registers and look first at the proportions of the sample registered in connection with crime, substance abuse and mental health problems subsequent to their release from special approved home care. The final section of the results presentation examines bivariate correlations between the reasons for placement, problem-load and care career variables, and the nature of the registered problems experienced by youths subsequent to their release from care.

The report concludes with a summary of central findings.

2. Reasons for placement and problem-load at admission to special approved homes

2.1 Introduction

This first section of the report focuses on the situation of the youths included in the study sample at the time of their admission to Sweden's special approved homes. The objective is on the one hand that of providing a general description of the range of self-reported problems and of combinations of problems presented by males at admission to special approved homes across a relatively broad range of behavioural and psychosocial dimensions. This is intended to complement Berg's (2002) description of the range of problems presented by females at admission to these institutions. At the same time, the initial descriptive analysis is then utilised in the creation of an indicator of the general 'problem-load' that characterises different youths at their point of admission to special approved home care. This problem-load indicator is subsequently employed as an independent variable in the sections of the report focusing on the youths' care career in special approved homes, and on their behavioural and mental health problems subsequent to release as illustrated by the register data employed in the follow-up study. An additional, simpler, measure of the youths' problem-load is also created, based on the ADAD interviewers' estimation of the level of help required by the youths across the different areas of the ADAD instrument employed in the analyses. This is used in part as a means of confirming that the division of the sample underlying the first problem-load measure does indeed reflect substantive differences in the extent of the youths' problems at admission. It is also employed in the subsequent analysis in order to avoid overreliance on a single measure based purely on "self-reported" problems.

2.2 "Reasons for placement"

The presentation begins by providing information on a number of the 'reasons for placement' registered in connection with the youths' admission to special approved homes (see Table 2.1). The data relating to the categories 'crime' and 'substance abuse' were taken from the ADAD database, and those relating to 'mental health problems' were taken from KIA (since this category is included as a 'reason for placement' in the latter database, but not in ADAD). It should be noted that in addition to the reasons for placement included in Table 2.1, youths may also be placed as a result of "other socially

destructive behaviour"[13]. This term relates to behaviours "that deviate from society's fundamental norms in a way that may involve a substantial risk to the youth's health or development" (cf. SOSF 1997:15). Further, since youths may be, and in many cases *are* placed as a result of problems in more than one area, the row percentages do not sum to 100. The table illustrates the fact that quite substantial differences may be expected in the levels of different types of problems presented by male and female approved home clients respectively, and at different ages.

TABLE 2.1
Proportions of youths in the institutional sample with different problems recorded among their 'reasons for placement'. By gender and age. Percent.

			Reason for placement (% in respective age group)		
	Age	N	Crime[14]	Substance abuse	Mental health problems
Males					
	12-14	362	64	23	25
	15-16	743	75	40	17
	17-20	735	68	65	17
	All boys	1840	70	47	19
Females					
	12-14	213	20	26	26
	15-16	340	27	42	26
	17-20	256	29	82	30
	All girls	809	26	51	27

Among the males, for example, we find that crime constitutes by far the most common reason for placement recorded among those aged up to sixteen, with the majority of boys being placed in whole or in part as a result of involvements in crime. Among the girls, on the other hand, only a relatively small minority are placed in whole or in part as a result of involvements in crime, and mental health or substance abuse problems are at least as important, if not more important, as reasons for placement in both of the younger age-groups. Within the oldest age-groups, substance abuse is clearly the dominant reason for placement among the girls, and appears by this age also to have become as important as involvements in crime among the boys. With the exception of the youngest age-group, mental health problems appear to be substantially more common as a reason for placement among the female special approved home clients than they do among the males.

13 Swedish: "annat socialt nedbrytande beteende"

14 The 'reasons for placement' included in the ADAD database include both the general category 'crime', which relates to 'repeated offences of a non-minor character' (SOFS 1997:15, p. 32) and also 'isolated serious offences' (which is in turn included as a sub-category under the "other socially destructive behaviours" noted above). For the purposes of this presentation, the two have been combined to form a single category containing all those youths for whom either one of these crime-related reasons for placement has been registered in the database.

2.3 Problems in one area are often accompanied by problems in several other areas

The focus of the descriptive analysis is now expanded to include not only problems of the kind that may themselves lead to a placement in an institution able to provide 'particularly close supervision' but also other areas of the youths' psychosocial situation that are commonly regarded as established 'risk factors' in relation to various forms of conduct problems. The logic of this approach in the current context is associated with a number of interrelated factors. On the one hand, there is now a substantial body of research indicating that behavioural problems of the kind that lead the social services to seek to place youths in the type of institutional environment provided by SiS are often associated with a broad range of other problems across several different psychosocial domains, including for example the family, the school and the peer group (e.g. Henggeler, 1996; Mason & Windle, 2001), and that youths with problems in one area often present problems in other areas simultaneously (e.g. Jessor & Jessor, 1977; Friedman & Utada, 1989; Henggeler et al., 1994; Kazdin 1997; Dembo & Schmeidler, 2003). In addition, there is also evidence that problems across different areas interact with one another in their long term effects (e.g. Dembo et al., 1993:652), and the complex interactions among different conduct problems and psychosocial risk factors are deemed to have a significant effect on amongst other things the likelihood that youths will respond to treatment (e.g. Friedman & Utada, 1989; Sorensen & Johnson, 1996; Kazdin, 1997).

When focusing on the question of interactions between various types of problems and/or risk factors, one is faced with a decision as to the level at which one directs one's analysis. Bergman et al. (2003) for example argue that one may choose either to base an analysis on what they refer to as the 'variable approach', which is perhaps the most common approach employed in developmental research efforts and which involves studying statistical correlations between variables across individuals at the group level (ibid.:19), or to instead employ a person-based approach. This latter method involves regarding the individual as the organising unit, with each individual having a certain combination of behavioural and psychosocial characteristics which then affect the way the individual responds to and acts in relation to his/her environment. Expressed in rather simplistic terms, youths with similar combinations of behavioural and psychosocial characteristics would be expected to respond and act in relation to similar environmental stimuli in similar ways. Proceeding from this point of departure, the analysis presented below has the objective of grouping the youths admitted to Sweden's special approved homes together on the basis of similarities in the extent of their problems across a range of behavioural and psychosocial domains.

2.4 Cluster analysis

Following Berg (2002) this goal is approached in the current context employing a method known as cluster analysis. As was noted above, the goals of this analysis are twofold. On the one hand, the intention is to provide a general overview of the range of behavioural and psychosocial problems presented by males at admission to special approved homes, as a complement to the study of female clients published by Berg (ibid.). For this reason, the full presentation of the findings of this analysis is limited to the male clientele. At the same time, however, the resulting clustering is then employed as the point of departure for the construction of an indicator of the general level of problems – or 'problem-load' – presented by the youths at admission, and the report examines both the relationships between reasons for placement and problem-load, and then the relationships between reasons for placement, problem load, and the nature of the youths' care career in special approved homes. Since these analyses relate both to girls and to boys, the results from the cluster analysis conducted among the girls are presented in the appendix.

A number of the cases included in the original sample were excluded from this analysis as a result of the fact that a comparison of the interview dates recorded in the ADAD database and the admission dates recorded in the KIA database showed that in some cases these interviews took place some considerable time after the youths' initial admission to special approved homes. Since a number of the measures employed in the clustering refer to the youths' situation over the course of the year prior to the ADAD interview, the analysis includes only those cases where the ADAD interview took place within two months of admission to special approved homes (a little over 95% of the original sample).

2.4.1 Dimensions and measures

The variables employed in the clustering were chosen to capture the range of behavioural and psychosocial problems reported by youths admitted to special approved homes. Whilst there is no upper limit on the number of variables that may be included in a cluster analysis, the goal of identifying homogenous groups is best served by keeping this number relatively small. Bergman et al. (2003:68) have argued that no more than eight variables should be employed in an analysis where the research objectives include that of identifying homogenous groups of cases.

The range of behavioural and psychosocial problems included in the analysis were first specified in terms of eight dimensions, these being: delinquency, alcohol use, drug use, the family, school, the peer group, early involvement in problem behaviours (prior to age thirteen), and mental health. A single indicator was then constructed for each of these dimensions in the form of an index comprising a range of factors that contribute to the aggregate level of problems in each area. With the exception of the alcohol use measure, which employs a single variable, these indexes were constructed on the basis

of explorative analyses focusing on a large number of variables included in each area of the ADAD instrument. These began with factor analytical procedures intended to examine the underlying dimensionality of the problems reported by the sample in each area. In certain areas, for example delinquency, dimensionality did not constitute a problem since all the variables examined loaded on a single common factor. In other areas, the exploratory analyses suggested the presence of two or more latent dimensions underlying the problems reported by the youths. In these cases, since only a single indicator variable could be used in each area, the variables loading on the first principal component were employed as a starting point, and indicators were then added and removed, with an eye to the changes in the scale alpha values produced by this procedure. The goal of maximising alpha was not followed to the point of absurdity, however, and where there were sound reasons for retaining a variable in a given scale, as was the case with the 'parental problems' item in the family index for example (see below), this was allowed even where it resulted in a slight reduction in the alpha value for a given index.

The indexes/variables employed in the clustering are as follows:

Delinquency: A summative index based on eleven dichotomised variables, each of which indicates involvement in a specific category of offences over the course of the year prior to admission. The crime categories range from minor offences such as shoplifting, graffiti and vandalism, through breaking and entering, public order offences, carrying a weapon and the sale/purchase of stolen goods to more serious crimes: arson, mugging, car theft and assault.

Alcohol use: A single variable measuring the frequency of alcohol consumption during a typical month in the year prior to the admission interview.

Drug use: An index comprising variables measuring frequency of use of a range of different substances during a typical month in the year prior to admission: marijuana, amphetamines, cocaine, heroin, hallucinogens, ecstasy, steroids, solvents and prescription medications.

Mental health: A measure based on questions asking whether the respondent had received in- or outpatient care for psychological problems, had been prescribed medication as a result of such problems, or had experienced any of a range of mental health problems comprising depression, suicidal thoughts, attempted suicide, hallucinations, and problems controlling violent behaviour.

Early involvement in problem behaviour: An index counting the number of different behaviours engaged in prior to age thirteen from among the offence types included in the delinquency index, and an additional dichotomous variable indicating any form of illicit drug use prior to this age.

The peer group: A measure of the level of exposure to problem behaviours within the respondent's peer group. The index is comprised of four variables measuring the amount of time spent with youths who commit crime, the amount of time spent with youths who take drugs, the amount of time spent with youths who do neither (reverse coded), and the number of friends who have been in trouble with the police as a result of criminal activity and drug use respectively.

The family: An index based on four subscales measuring different aspects of the family situation that have been linked in previous research to an increased likelihood of behavioural problems. These subscales are indicators of the level of conflict within the family, the quality of parent-child relations, whether the respondent had experienced physical, sexual or psychological/emotional abuse, and 'parental problems' in the form of mental health problems, or involvement in crime or drug use.

School: An index comprised of dichotomous variables measuring whether the respondent reported having difficulty reading or with maths, having enjoyed being in school (reverse coded), having truanted in several subjects, having been unmotivated in school, having been a failure at school, having been bored in school or tired of going to school, having had problems with teachers, or difficulties keeping up in class.[15]

Table 2.2 presents alpha coefficients for the seven composite indexes employed in the clustering scales, both for the sample as a whole, and by gender.

TABLE 2.2
Internal consistency (alpha) values for index measures employed in clustering. Youths admitted to special approved homes 1997–2001. By gender.

	Cronbach's Alpha		
Index	Females	Males	Total sample
Delinquency	.80	.77	.78
Drug use	.76	.78	.77
Mental health	.75	.71	.75
Early involvement	.70	.77	.77
Peer group problems	.81	.77	.78
Family problems	.69	.72	.75
School problems	.71	.73	.71

Prior to the clustering process, correlations between the cluster variables were examined within each of the six sex/age groups within the sample. It was noted that the 'early involvement' variable was highly correlated with the delinquency variable among the

15 The variables included in the problem indexes for the different age-groups are identical with the exception of the school problems index. Here, among the older two age-groups the index included a variable based on an item asking whether the respondents had enjoyed being in secondary school; this was excluded from the scale for those aged 12-14 years.

youths aged under fifteen at admission, and this index was therefore excluded from the cluster analysis of the 12-14 year-old males and females (cf. Aldenderfer & Blashfield, 1984:21; Jones & Harris, 1999:257). Thus the cluster analysis was based on seven variables in the youngest age-group, and eight variables in those segments of the sample aged between fifteen and twenty years of age.

2.4.2 Variable standardisation and treatment of missing data

Prior to the cluster analysis, index scores on the eight dimensions described above were range-standardised (within each sex/age group) to avoid a number of potential problems that may result when variables measured on different scales are included in a classification (cf. Milligan & Cooper, 1988; Bergman et al., 2003:38).The drug-use scale, which had an extremely long tail as a result of the presence of a small number of individuals reporting frequent multiple-drug use was censored at the 95th percentile prior to being range standardised, in effect collapsing the scores of the most frequent drug users within each segment of the sample into a single category at the upper extreme of the index.

Distance measures of the kind employed in cluster analyses can only be calculated for cases with complete data on the variables included in the profile. In the present context, the inclusion of only cases with complete data would have meant excluding a substantial group from the analysis, thus introducing a risk that the problem profiles emerging from the cluster solution would fail to cover the range of problems existing within the population of interest. Index scores were therefore computed for all cases with missing data on at most three of the original variables comprising the indexes where this problem was most acute (delinquency, early involvement, drug use, school problems and mental health), and within this group missing data were replaced by the sample median for the (predominantly dichotomous) variables in question. An additional imputation procedure was employed to further reduce the number of missing cases by allowing the inclusion of cases with missing values on at most one of the complete indexes. The method of imputation employed here follows that described by Bergman et al. (2003). This involves imputing an individual's score on a missing scale by replacing the missing value with the score of that individual whose pattern across the remaining variables in the analysis is most similar. For individuals with missing values on a single scale, then, missing data were replaced by the index score of the nearest 'twin' in the multivariate space, defined as that case lying at the shortest Euclidean distance from the individual with missing data, as measured in terms of the remaining indexes.[16]

16 In practice this form of imputation serves to increase the relative similarity between a case with missing data and its nearest twin in the data set, thus making it likely that the two will be assigned to the same cluster in the final partitioning. This is a reasonable outcome, since the "nearest twin" is by definition the individual whose pattern across the variables for which information is available is most similar to the pattern of the individual with missing data on one of the scales. No imputation was conducted where the nearest twin lay at a Euclidean distance of over 0.5 from the case with missing data, i.e. where the "nearest twin" in the data set lay at such a distance from the individual with missing data that their patterns across the remaining variables could not be regarded as being particularly "similar" (cf. Bergman, 1988).

2.4.3 Clustering method

The cluster analysis was carried out in two stages. Firstly, a hierarchical clustering (cf. Aldenderfer & Blashfield, 1984) was conducted utilising Ward's method, which has consistently been found to be among the best performers in terms of its ability to recover known data structure (e.g. Milligan, 1999:358). The solution was then fine-tuned using the cluster centroids from this first analysis as seeds for a final iterative partitioning utilising the *k*-means procedure (cf. Milligan, 1999). Outliers, i.e. cases with unique combinations of values, have been found to exert a disturbing effect on hierarchical cluster solutions (e.g. Milligan, 1980). For this reason, cases lying at a Euclidean distance of over 0.5 from their nearest neighbour were excluded from the initial hierarchical analysis and then reintroduced into the data set at the k-means clustering stage, since this procedure has shown itself to be far more robust in the presence of such cases (e.g. Milligan, op.cit.). All the analyses presented in this report were conducted using output produced by the SPSS statistical package.

Table A1 in the appendix presents the proportion of the sample included in the clustering within the different age-groups, by 1) the proportion with values on all eight scales; 2) the proportion included in the initial hierarchical clustering (including those for whom a single scale score had to be imputed, but with 'outliers' excluded); 3) the proportion included in the final *k*-means clustering (i.e. all those with full data once scores had been imputed for those with missing data on a single scale, and with the reintroduction of outliers). The table shows that once missing data had been dealt with in the ways described above, the final cluster analysis included approximately 90% of each of the original sub-samples.

A good deal has been written on the question of specifying the number of clusters in a data set (e.g. Aldenderfer & Blashfield, 1984; Everitt, 1995) and a large number of different rules-of-thumb have been developed to assist the analyst in this process. The choice of one method over another will depend on the goals of a particular analysis and the nature of the data set being employed. It has been suggested that in the context of a person-based clustering of the kind presented here, useful solutions are usually found in the five to fifteen cluster range (e.g. Bergman et al., 2003:89). Since one of the objectives of the current analysis is that of describing the *variety* of problem profiles presented by youths admitted to special approved homes, it was decided to opt for a solution at the upper end of this range, thus maximising both the within group homogeneity of the clusters identified and at the same time the breadth of profiles included in the solution. Thus the final *k*-means clustering was based on the cluster centroids from the Ward's method fifteen cluster solution within the sub-samples of youths aged 15-16 and 17 and over.

Within the youngest age-group, where the sample size was smaller, and where the clustering was based on seven rather than eight variables, a factor which in itself effects the level of within-cluster homogeneity that can be attained in an analysis, the level of

homogeneity within the clusters emerging from the solution was significantly better than in the older sub-samples even with fewer clusters in the solution. Within this age-group, then, the twelve cluster solution was chosen rather than the fifteen in order to avoid overly small cluster membership frequencies.

2.4.4 The cluster solution

Tables 2.3 to 2.5 present cluster means and standard deviations across all eight problem dimensions (seven among the youngest age-group, where the 'early involvement measure was excluded) for the institutionalised males. For ease of presentation, the clusters were ranked prior to presentation on the basis of their scores on the crime index. Similar tables for the girls are presented in the appendix (Tables A2 through A4).

Previous studies focusing on problem profiles within youth populations, including populations of 'high-problem youth', have tended to identify groups of youths with substantial levels of problems across a relatively broad range of areas ('multiple-problem' youth), youths with relatively low levels of problems across all areas ('low-problem' youth), and youths with profiles that indicate substantial problems in one or two areas, and average or low levels of problems in others (e.g. Zimmerman & Maton, 1992; Sorensen & Johnson, 1996; Dembo et al., 1996; Harris & Jones, 1999; Goddard et al., 2000). A similar spread of problem profiles was identified in the current analysis. Using a combination of cluster and sample means, multiple-problem clusters (cluster mean above the sample mean in at least five [12-14 year-olds] or six [15-20 year-olds] problem areas) and low-problem clusters (scores at or below the sample mean across all eight [or seven] dimensions) have been identified in Tables 2.3 through 2.5. In addition, the sample includes clusters with a pronounced '*spike*' (in terms of a score at or above one standard deviation above the sample mean) in one or two problem domains, despite presenting relatively low levels of problems in virtually all other areas.

It should of course be remembered that the sample is drawn from a population which, almost by definition, is characterised by high levels of problems across the dimensions included in the cluster analysis. This means that the mean level of problems within a given area is likely to be substantially higher within the current sample than it would be in a sample drawn from the general population of young people. The label 'low problem' and the term 'low levels of problems' should thus be interpreted with caution and regarded as what they are, highly *relative* terms and ones which should be viewed as at best saying something in relation to the distribution of problems *within the sample at hand*.

Figure 2.1 presents a graphic representation of the clusters from the sub-sample of 15-16 year old males in order to provide a visual illustration of the variation across the emergent profiles. Similar figures for the other two male sub-samples are presented in the appendix (Figures A1 and A2).

Twelve to fourteen year-olds

Table 2.3 presents cluster means and standard deviations on the seven dimensions included in the analysis for the males aged twelve to fourteen at admission. Within this age-group, the three clusters identified as containing 'multiple-problem' youth (cluster mean above sub-sample mean on at least five indexes) include approximately sixteen per cent of the clustered sample, whereas the two 'low-problem' clusters (X7 and X12) include just over thirty per cent. All three multiple-problem clusters present above mean levels of self-reported delinquency and alcohol use, and of exposure to delinquent peers, whereas the levels of drug use, for example, vary sharply between Clusters X1 and X4.

Clusters with a pronounced 'spike' on one or two dimensions are relatively small by comparison with the low problem clusters, and include youths with very high scores on the 'delinquent peers' variable who themselves report no more than average levels of delinquency (Cluster X6), as well as youths for whom problems within the family (Cluster X11) or a history of mental health problems (Cluster X10) appear to dominate the profile.

TABLE 2.3

Problem profiles among males aged twelve to fourteen. Cluster means and standard deviations. Unstandardised data. Twelve cluster solution.

	Problem area													
	crime		alcohol use		drug use		mental health		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
X1[a] (17)	9.0	1.9	2.5	1.3	10.6	4.5	3.8	2.0	15.6	2.5	3.7	2.2	7.1	2.3
X2[c] (29)	7.8	2.0	1.8	1.1	.5	1.0	2.3	1.4	9.0	2.8	3.3	1.3	6.2	1.6
X3[a] (24)	7.1	2.2	1.6	1.0	1.7	1.6	5.7	1.9	12.2	3.3	6.4	2.0	9.0	1.1
X4[a] (11)	5.9	1.4	2.7	1.3	.4	.7	2.5	2.1	11.3	4.3	8.3	1.9	6.3	1.6
X5[f,i] (16)	4.5	1.5	1.8	1.2	6.3	3.0	2.0	1.5	10.9	3.1	3.2	2.0	5.7	2.2
X6[i] (12)	4.4	1.9	.6	.7	.4	.7	1.1	1.0	12.9	2.4	1.8	1.2	4.8	2.8
X7[b] (45)	4.3	1.3	1.1	.9	.3	.7	1.4	1.3	4.0	2.1	2.1	1.3	3.6	1.6
X8 (31)	3.7	1.7	2.0	.7	.3	.6	2.5	1.7	3.7	2.4	6.0	1.7	6.2	2.0
X9 (53)	1.9	1.5	.3	.6	.1	.6	1.7	1.2	2.8	2.6	2.8	1.8	6.9	1.5
X10[e] (13)	1.6	1.7	.2	.6	0	0	6.0	1.5	1.8	1.4	5.2	2.2	6.5	1.9
X11[d] (13)	1.6	1.6	.3	.5	.5	1.0	1.9	1.3	2.7	2.9	9.5	1.8	4.0	2.0
X12[b] (53)	1.1	1.0	.1	.3	.2	.8	1.1	1.2	2.4	1.9	1.7	1.7	2.3	1.4
Unclassified*: (28)	2.6	2.5	1.2	.8	.9	1.8	2.4	2.1	5.7	4.9	4.3	2.1	5.5	2.9
Total Sample (345)	**3.9**	**2.9**	**1.1**	**1.2**	**1.2**	**3.0**	**2.3**	**2.0**	**6.1**	**5.0**	**3.8**	**2.7**	**5.4**	**2.6**

[a] Multiple-problem clusters (cluster mean above sample mean on at least 5 dimensions); [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [h] Spike school problems; [i] Spike delinquent peers.

* Unclassified cases comprise those with missing data on more than one dimension

Fifteen to sixteen year-olds

Among the fifteen to sixteen year-olds, the three clusters identified as containing 'multiple-problem' youth include approximately eighteen per cent of the clustered sample, whereas the three 'low-problem' clusters (Y11, Y12 and Y13) include approximately 26 per cent. Once again all three multiple problem clusters present levels of self-reported delinquency and of exposure to delinquent peers that are substantially over the sub-sample mean, and two of them include many of those reporting the highest levels of drug-use within this sub-sample. Levels of drug use are also very high in Cluster Y7, although for this group, problems levels as measured by the remaining seven indexes lie at or around the sub-sample mean.

Once again we find clusters with a pronounced 'spike' on one or two dimensions, and they again include groups whose profile appears to be dominated by family problems (Cluster Y14) or a history of mental health problems (Cluster Y9). In this latter group, levels of school problems also lie well above the sub-sample mean.

TABLE 2.4

Problem profiles among institutionalised males aged fifteen to sixteen. Cluster means and standard deviations. Unstandardised data. Fifteen cluster solution.

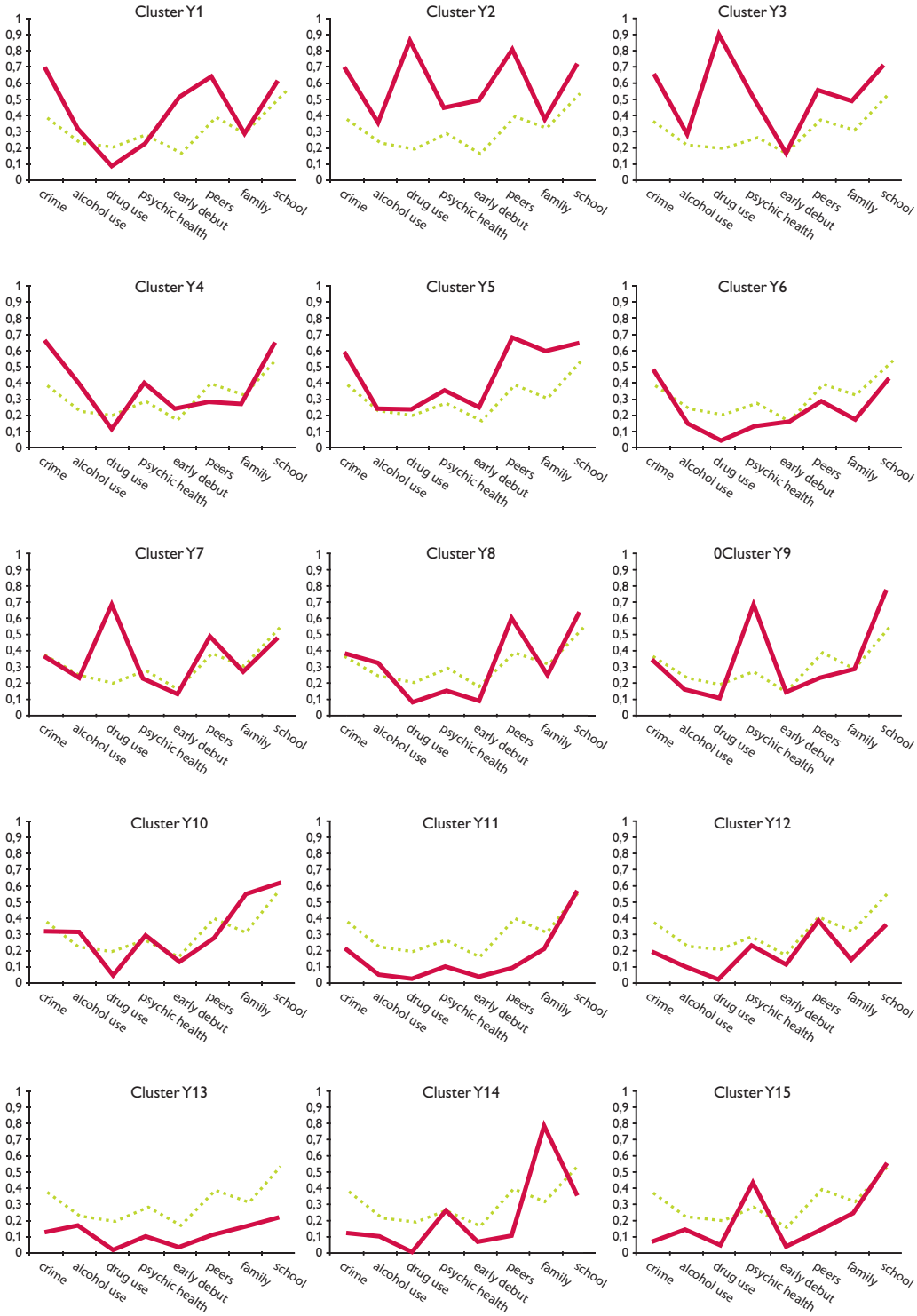
	Problem area															
	crime		alcohol use		drug use		mental health		early debut		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Y1[c,g] (27)	7.7	2.0	1.9	1.0	1.1	1.6	2.3	1.8	6.2	1.9	12.0	2.9	3.6	2.2	7.4	2.6
Y2[a] (37)	7.6	1.9	2.1	1.4	11.2	2.1	4.6	2.0	5.9	2.8	15.4	2.9	4.6	2.6	8.7	2.0
Y3[a] (20)	7.3	2.5	1.8	1.0	11.9	1.8	5.3	2.0	2.2	1.3	10.6	4.2	6.2	3.0	8.7	1.9
Y4[c] (36)	7.2	1.5	2.4	.9	1.5	2.0	4.0	2.0	2.8	1.4	5.6	2.6	3.5	1.6	7.8	1.6
Y5[a] (60)	6.6	2.1	1.5	1.1	3.1	2.6	3.6	2.2	3.0	1.7	13.3	3.2	7.5	2.1	7.8	2.4
Y6 (60)	5.4	1.2	.9	.8	.6	1.2	1.4	1.2	1.8	1.3	5.4	2.3	2.3	1.7	5.1	1.8
Y7[f] (52)	4.1	2.1	1.5	1.0	9.1	2.6	2.3	1.8	1.6	1.5	9.5	4.2	3.4	2.4	5.8	2.3
Y8 (60)	4.1	1.8	1.9	1.0	1.1	1.7	1.6	1.4	1.0	1.1	11.4	3.2	3.1	1.5	7.6	2.1
Y9[e,h] (27)	3.9	2.0	1.0	1.3	1.3	1.9	6.7	1.8	1.9	1.5	4.5	2.8	3.7	1.9	9.4	2.0
Y10[d] (47)	3.5	1.6	1.9	1.2	.7	1.2	3.0	1.7	1.7	1.4	5.4	3.0	6.9	2.2	7.4	2.1
Y11[b] (44)	2.3	1.4	.3	.6	.4	1.2	1.1	1.0	.5	.8	1.9	1.6	2.6	2.0	6.8	1.8
Y12[b] (55)	2.2	1.3	.6	.8	.3	.9	2.3	1.2	1.4	1.2	7.5	2.3	1.8	1.2	4.5	1.9
Y13[b] (75)	1.4	1.3	1.0	1.0	.3	.9	1.0	1.0	.5	.7	2.3	1.8	2.1	1.8	2.6	1.5
Y14[d] (16)	1.3	1.4	.6	.5	.1	.3	2.6	1.9	.9	1.3	2.2	1.9	9.9	1.6	4.4	2.4
Y15 (50)	.8	.9	.9	1.0	.6	1.4	4.3	1.4	.7	.8	2.8	2.1	3.1	2.1	6.8	2.2
Unclassified*: (61)	4.0	3.2	1.6	1.5	2.7	3.8	2.7	2.4	2.0	2.3	7.7	5.7	4.3	3.2	6.6	2.9
Total Sample (727)	**4.1**	**2.8**	**1.3**	**1.2**	**2.5**	**3.9**	**2.7**	**2.2**	**1.9**	**2.1**	**7.3**	**5.1**	**3.9**	**2.8**	**6.4**	**2.8**

[a] Multiple-problem clusters; [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [g] Spike early debut; [h] Spike school problems

* Unclassified cases comprise those with missing data on more than one dimension

FIGURE 2.1.

Cluster mean profiles among males aged 15-16. Broken line represents mean profile for sub-sample as a whole. Range standardised data. Fifteen cluster solution.



Seventeen to twenty year-olds

Within the oldest sub-sample, the three clusters identified as being comprised of 'multiple-problem youth' contain approximately fourteen percent of the clustered sample. The single 'low-problem' cluster identified includes seventeen per cent of the clustered sample. Once again, all three multiple problem clusters present above sub-sample mean levels of delinquency, and exposure to delinquent peers. Two present high levels of drug use (Z3 and Z6), and the other a level that lies below the sub-sample mean (Z1)[17] .

TABLE 2.5.
Problem profiles among males aged seventeen to twenty. Cluster means and standard deviations. Unstandardised data. Fifteen cluster solution.

	Problem area															
	crime		alcohol use		drug use		mental health		early debut		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Z1[a] (28)	8.2	1.3	2.8	.7	4.3	3.1	4.9	1.4	3.4	2.3	13.3	3.9	6.3	2.8	9.0	1.8
Z2[c] (32)	7.1	1.8	1.2	1.0	2.4	2.6	2.8	1.5	3.1	2.0	8.9	3.3	4.2	2.2	5.0	1.7
Z3[a] (33)	6.7	2.1	2.8	1.4	18.8	6.4	4.2	2.1	5.9	1.9	15.5	3.3	4.3	2.5	8.0	2.1
Z4[f,l] (28)	6.3	1.9	1.1	1.2	19.4	5.2	2.1	1.6	2.6	1.8	16.5	1.6	3.2	1.5	7.3	2.8
Z5[f] (34)	5.8	2.0	2.5	1.1	19.3	7.6	4.6	2.6	1.6	1.5	9.2	3.4	3.3	1.9	8.6	2.0
Z6[a] (30)	5.0	2.2	1.1	.9	14.6	4.6	6.4	2.3	1.7	1.5	14.6	3.1	8.2	2.7	7.9	2.0
Z7[i] (38)	4.3	2.1	1.4	1.0	8.9	2.8	2.6	1.4	1.6	1.2	14.6	2.3	3.9	2.1	8.1	1.7
Z8 (37)	4.1	1.8	2.2	1.1	1.6	2.0	5.3	1.9	3.3	2.2	10.1	3.6	4.2	2.1	8.5	1.9
Z9 (40)	4.0	1.8	2.3	3.5	4.0	3.5	1.1	1.3	.8	1.0	12.3	2.6	2.3	1.8	4.6	1.8
Z10[e,i](20)	3.5	2.3	3.7	1.2	8.9	3.6	6.0	1.8	1.4	1.4	9.8	3.8	4.0	2.0	3.9	2.2
Z11 (83)	3.0	1.8	1.8	1.2	2.0	2.7	1.3	1.0	.9	1.1	6.0	2.7	3.7	2.3	8.0	1.5
Z12[d] (35)	1.9	1.7	1.4	.8	2.7	3.5	4.3	1.9	.9	1.0	4.4	3.6	8.8	2.0	5.6	1.9
Z13 (54)	1.8	1.2	.9	.8	.6	1.2	4.3	1.4	1.0	1.2	3.9	3.1	2.3	1.8	7.0	2.1
Z14[b] (106)	1.8	1.6	1.0	1.0	1.2	2.1	1.2	1.2	.6	1.1	3.9	2.6	1.8	1.6	2.9	1.7
Z15[f] (32)	1.7	1.3	1.1	.9	14.0	5.4	2.7	1.9	1.0	1.0	8.6	3.5	2.5	2.0	4.8	1.8
Unclassified*: (66)	3.2	2.1	1.3	1.2	4.8	7.8	3.2	2.4	2.3	3.1	9.1	5.3	3.4	3.4	6.3	3.3
Total Sample (696)	**3.8**	**2.6**	**1.7**	**1.3**	**6.3**	**7.6**	**3.1**	**2.3**	**1.7**	**2.0**	**8.6**	**5.3**	**3.8**	**2.9**	**6.4**	**2.8**

[a] Multiple-problem clusters; [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [g] Spike early debut; [h] Spike school problems; [i] Spike delinquent peers; [l] Spike alcohol use.
* Unclassified cases comprise those with missing data on more than one dimension

As Berg (2002) notes in her study of the females admitted to special approved homes, the broad range of problem profiles identified in these analyses provides an insight into the problems faced by an agency such as SiS in connection with the need to offer differentiated care alternatives that are matched to the diverse care-needs of its client group. The

17As can be seen from a comparison of the unstandardised drug index scores reported for the total sub-samples in tables 2.3 to 2.5 however, the mean level of self-reported drug use is substantially higher within the oldest sub-sample than it is in the other two. This reflects both the age-related increase in the likelihood for some level of drug use within the youth population at large, but in particular the centrality that drug-use assumes among the reasons underlying the placement of youths in special approved homes among the oldest group of youths (cf. Table 2.1).

sample examined in the current study is too large to allow for the collection of detailed data on the content of the care and treatment forms undergone by the sample at the level of the individual. In the next chapter, however, the report nonetheless focuses at least indirectly on this issue by examining the correlation between the extent of the problems reported at admission and the type of care career undergone by the youths in terms of the length of stay and the time spent by the youths in treatment units over the course of this stay.

The remainder of the current section of the report first presents a brief examination of the differences in problem levels on the individual dimensions across multiple and low-problem clusters respectively on the basis of the interviewer ratings of the youths' problems in these areas, and then describes the way in which the indicator of the youths' 'problem-load' was constructed on the basis of the cluster solutions presented in Tables 2.3 to 2.5 above. An alternative, simpler measure of the youths' problem load at admission, based on mean interviewer ratings across seven of the areas covered by the ADAD instrument is then compared with this cluster-based problem-load construct. The final analysis in this section of the report looks at the correlations between the three 'reasons for placement' presented in Table 2.1 and the two 'problem-load' constructs.

2.5 Interviewer ratings of problem levels among 'multiple-problem' and 'low-problem' youth

It was noted earlier that the term 'low-problem' is a highly relative one in the present context, given that the only standard of comparison employed to specify youths as having low or high levels of problems is based on the mean level of problems reported by a group of youths, the majority of whom have been deemed to require institutionalisation by compulsory means.

Whilst there are no data available in the current study that would enable a comparison of the levels of problems reported by 'high-' and 'low-problem' youths respectively with those of a representative sample of youths from the general population [18], it is possible to examine levels of problems across the majority of the dimensions included in the cluster analysis (with the exception of the index measuring levels of early involvement in problem behaviour[19]) on the basis of the interviewer ratings of

18 A partial examination of this question, in relation to the crime dimension, has been possible for one section of the sample, however, and the findings from a comparative analysis of levels of self-reported crime among the males aged 15-16 and a nationally representative sample of schoolboys of a similar age are presented in Shannon, 2006a.

19 The interviewer rating employed as an indicator of problems in the peer group relates to a somewhat broader problem domain than the indicator of exposure to delinquent peers employed in the cluster analsysis. This section of the ADAD instrument is designed to collect data on the youths' leisure time activities and relations with friends and in addition to the items included in the peer problems index, includes questions on e.g. how much time a youth spends on various different activities, such as listening to music, watching TV, doing homework etc. on a normal day, how often he or she goes to parties or participates in sports, whether or not he/she has a boyfriend girlfriend, and experience of sexual relationships.

the level of assistance required by the interviewed youths in these various areas.

These ratings are specified by the ADAD interviewers and are based on a scale from 0 to 9 where 0-1 is defined as implying 'no substantive problems, no additional help necessary', 2-3 as 'insubstantial problems, additional help probably not necessary', 4-5 as 'moderate problems, some help required', 6-7 as 'substantial problems, help necessary', and 8-9 as 'very severe problems, help absolutely necessary'. [20]

The principal purpose of this section of the presentation is two-fold. On the one hand, the intention is to show that the variables employed in the cluster analysis, and the clustering procedure itself, have identified groups at least at the extremes of the problem continuum that are deemed by trained assessment staff to be significantly different from one another in terms of their problem levels. On the other hand, the aim is also to provide the reader with a somewhat better idea of the level of the problems existing even within those groups designated as 'low-problem' clusters in relation to the remainder of the sample. Tables 2.6 and 2.7 present the results from these comparisons for males and females respectively.

As can be seen from Tables 2.6 and 2.7, the low-problem and multiple problem clusters differ significantly across both sexes and all age-groups in relation to the interviewer ratings of problem levels in the areas of crime, alcohol and drug use, mental health, the family and the interviewer rating of the youths' need for assistance in relation to the leisure time and peer group section of the instrument. Among the females, the differences in interviewer ratings in relation to school problems are not sufficiently great to reach statistical significance among those aged 12-14 and 17-20 respectively.

At the same time, the tables show that even within the low-problem clusters, levels of problems are deemed sufficient to require some assistance on a number of the dimensions examined. In the majority of the sex/age groups, the interviewer rating is above four (indicating that some help is required) on over half of the dimensions examined in this analysis. Among the boys, for example, mean interviewer rating scores within the low problem clusters lie around or above four across the crime, family, school and peer-group dimensions in each of the age-groups. Among the girls the same is true at least in relation to the family, school and peer-group dimensions, and here the only age-group in which interviewer ratings of levels of mental health problems in the 'low problem' clusters dip below four is among the 15-16 year olds. Thus although the youths in the 'low-problem' clusters do on balance appear to be characterised by somewhat (and in the majority of areas significantly) less serious problems than their counterparts in the high-problem clusters, they are nonetheless characterised by levels of problems that

20 In the context of a study examining the psychometric properties of the Swedish version of the ADAD instrument by Börjesson et al. (2007), which compared data for a subsample of youths from the ADAD database with data collected using the ADAD instrument from a sample of youths drawn from the general population, it was found that the interviewer ratings were able to differentiate between institutional and normal population samples as regards problem levels across virtually all areas covered by the ADAD instrument.

trained interviewers deem sufficient to require some form of assistance, and it seems very unlikely that they would be regarded as 'low-problem' youth in relation to a more representative sample of youths of the same age.

2.6 Division of the cluster solution employed in the subsequent analyses

Whilst the specification of twelve and fifteen cluster solutions means that the clusters identified are relatively homogenous, it also produces clusters many of which have rather small numbers of members. Further, the results of the cluster analysis are employed in the remaining analyses as an indicator of the general 'problem-load' presented by

TABLE 2.6.
Comparison of mean interviewer ratings of problems within 'low-problem' and 'multiple-problem' clusters respectively. Males admitted to special approved homes 1997-2001. By age.

	Problem area	Low-problem clusters		Multiple-problem clusters		t
		M	(SD)	M	(SD)	
(12-14 years)	Crime	4.6	(2.3)	6.5	(1.7)	-5.8***
	Alcohol	1.9	(1.9)	4.4	(2.3)	-6.7***
	Drugs	0.8	(1.6)	4.1	(3.2)	-6.9***
	Mental health	3.3	(2.0)	5.6	(2.1)	-6.6***
	Family	4.5	(2.3)	5.8	(2.2)	-3.2***
	School	4.9	(2.0)	6.3	(1.5)	-4.5***
	Peer group	4.5	(2.0)	6.0	(2.0)	-4.5***
(15-16 years)	Crime	4.4	(2.3)	6.3	(1.7)	-8.3***
	Alcohol	2.1	(2.1)	3.5	(2.4)	-4.9***
	Drugs	1.2	(2.1)	5.7	(2.6)	-14.9***
	Mental health	3.4	(2.2)	5.2	(2.0)	-7.1***
	Family	4.1	(2.1)	5.8	(1.8)	-7.3***
	School	4.8	(2.0)	5.7	(1.8)	-3.8***
	Peer group	4.0	(1.9)	5.9	(1.4)	-9.3***
(17-20 years)	Crime	5.3	(1.9)	6.7	(1.8)	-5.1***
	Alcohol	2.3	(2.2)	4.4	(2.4)	-6.1***
	Drugs	2.4	(2.6)	6.8	(2.1)	-12.9***
	Mental health	3.2	(2.2)	5.5	(1.8)	-7.9***
	Family	3.9	(2.3)	5.7	(1.8)	-6.1***
	School	4.3	(2.0)	5.2	(1.6)	-3.2**
	Peer group	4.5	(1.9)	6.0	(1.4)	-6.2***

** p< .01 *** p< .001 (two-tailed tests)

different youths at admission to special approved homes. A division of the clusterings was therefore sought which both reduced the number of groups to be employed in the analyses, while at the same time retaining a sense of progression from youths with relatively low levels of problems at one end of the scale, and youths with substantial levels of problems at the other. The two end-points of the 'problem-load' scale were thus simply identified employing the 'multiple-problem' and 'low-problem' profile groupings already presented in connection with the discussion of the clustering findings in Tables 2.3 to 2.5. The 'spike' clusters were then divided into two groups. Given that the follow up variables are all associated with either behavioural (crime/substance abuse) or mental health problems, and that youths with problem profiles indicating existing problems of these types may be assumed to be at elevated risk of continued problems in these areas subsequent to release, the spike clusters were divided into on the one hand those with a spike on one or more of the 'behavioural/mental health' dimensions of crime, alcohol use, drug use or mental health problems, and on the other those with a spike exclusively on the family or school dimensions. The remaining clusters are simply referred to as clusters of the 'mid-range'.

TABLE 2.7.
Comparison of mean interviewer ratings of problems within 'low-problem' and 'multiple-problem' clusters respectively. Females admitted to special approved homes 1997-2001. By age.

	Problem area	Low-problem clusters		Multiple-problem clusters		t
		M	(SD)	M	(SD)	
(12-14 years)	Crime	1.6	(1.6)	5.3	(1.8)	-9.6***
	Alcohol	2.0	(1.8)	4.9	(2.4)	-5.5***
	Drugs	0.8	(1.6)	4.8	(2.9)	-8.1***
	Mental health	4.3	(2.4)	6.3	(2.0)	-4.2***
	Family	5.5	(1.6)	6.3	(1.5)	-2.2*
	School	5.7	(1.4)	6.2	(1.5)	-1.7ns
	Peer group	4.0	(1.2)	6.4	(1.4)	-7.9***
(15-16 years)	Crime	1.8	(2.2)	5.5	(2.3)	-9.5***
	Alcohol	1.7	(1.9)	4.5	(2.6)	-6.6***
	Drugs	1.6	(2.3)	4.4	(3.0)	-5.8***
	Mental health	3.5	(2.0)	5.6	(1.9)	-6.2***
	Family	5.1	(2.0)	5.8	(1.6)	-2.2*
	School	4.7	(1.9)	6.1	(1.5)	-4.4***
	Peer group	4.4	(2.0)	5.7	(1.4)	-4.0***
(17-20 years)	Crime	2.6	(2.4)	6.1	(2.1)	-6.4***
	Alcohol	2.7	(2.4)	4.5	(3.1)	-2.8**
	Drugs	3.8	(2.9)	7.2	(2.2)	-5.6***
	Mental health	4.1	(1.7)	6.4	(1.8)	-5.4***
	Family	5.0	(1.9)	6.0	(1.5)	-2.5*
	School	4.6	(2.9)	5.3	(1.5)	-1.6ns
	Peer group	4.6	(1.9)	6.4	(1.5)	-4.3***

* p< .05 ** p< .01 *** p< .001; ns – non-significant (two-tailed tests)

2.6.1 An alternative measure of the youths' problem load at admission

An alternative measure of the youths' problem load at admission has also been created. This measure is much simpler than that based on the cluster solution, since it simply calculates the youths' mean scores across the interviewer ratings from the seven areas of the ADAD instrument presented in Tables 2.6 and 2.7. Calculating the youths' problem load in this way makes no attempt to attend to differences in the pattern of a youth's problem levels across the different dimensions, and problems in each area are implicitly assumed to be of equal significance.

Table 2.8 presents the mean scores on this mean-based problem-load measure for the different categories of the cluster-based problem load index. Mean interviewer rating scores were similar for the cluster groups in each of the different age-groups (indicating that the assessments of the level of the youths' need for help in a given area is made on the basis of a judgement that takes both the level of problems and the youth's age into account simultaneously, rather than focusing on the level of problems per se, irrespective of the youth's age), and the table therefore presents the comparison for all age-groups together. The comparison is presented separately by gender, if only to show the similarity between the patterns across male and female special approved home clients.

TABLE 2.8:
Mean interviewer-rating scores among youths assigned to different groups of clusters. By gender.

	Mean interviewer-rating score across seven problem areas	
	Males	Females
Cluster grouping		
Low problem	3.6	3.5
Mid-range	4.3	4.1
Spike family/school	4.5	4.2
Spike behaviour/ mental health	4.9	4.9
Multiple-problem	5.6	5.7
F	**118.2*** **	**62.0*** **

***p<.001

The table shows that mean interviewer-rating scores increase as we move from the low-problem clusters, through the mid-range and spike clusters and to the multiple problem clusters among both males and females. Further, the mean interviewer-rating scores within the different cluster groupings are remarkably similar across males and female special approved home clients.

For use in the remainder of the analyses presented in the report, the problem-load indicator based on interviewer ratings was first transformed into a quartile-based four-category index within each of the sample's six sex/age groups. The four categories of the index are referred to as "low-problem", "low-mid-range", "high-mid-range" and "multiple-problem", with each category including approximately 25 percent of the sample.

2.7 Reasons for placement and 'problem-load'

This final section of this part of the report examines the relationship between reasons for placement and 'problem-load'. This provides an indication as to which if any of the 'reasons for placement' are associated with higher levels of problems across a number of different areas. Table 2.8 presents the correlations between having crime, substance abuse and mental health problems registered among one's reasons for placement, and the general 'problem-load' at admission to special approved homes.

The correlations are presented in terms of 'odds-ratios', which specify the increase in the likelihood for a given outcome (in this case membership of a certain type of cluster group) that is associated with a certain characteristic (in this case, having being placed in whole or in part as a result of one of the three 'reasons for placement' examined). An odds-ratio significantly greater than 1.0 indicates that a given reason for placement is associated with an increased likelihood for youths with a given reason for placement to have been categorised in a certain 'problem-load' group, and an odds-ratio significantly smaller than 1.0 indicates the opposite. The findings are based on bivariate multinomial logistic regression models [21] specified for each of the reasons for placement in turn. The 'problem-load' variable reflects the division of the cluster solution described above, and with the low-problem clusters being specified as the reference category. The models were first specified separately for each sex/age-group, but since the patterns were similar across these age-groups, Table 2.9 presents the findings, by sex, for all age-groups combined.

The table shows that among both males and females, those placed in whole or in part as a result of substance abuse problems are more likely than those not placed for this reason to present at special approved homes with higher general problem-load levels, than they are to present with problem levels sufficiently low for them to have identified by the cluster analysis as 'low-problem' youth. Thus when compared with the likelihood of being located in low-problem clusters, there is a significant over-representation of both males and females with substance abuse among their reasons for placement among those classified as 'multiple-problem' youth. This finding is also confirmed in the analysis conducted using the alternative interviewer-rating based problem load measure. See Table 2.10.

21 For a description of multinomial logistic regression models, see for example Hosmer & Lemeshow (2000).

TABLE 2.9.
Multinomial logistic regression models examining the relationship between reasons for placement (crime, substance abuse, mental health problems) and membership of different categories of clusters (low-problem, mid-range clusters, spike clusters, multiple-problem clusters). Youths admitted to special approved homes 1997-2001. By gender.

Reason for placement		Problem load (ref: low problem clusters)			
		Mid-range	Spike family/school	Spike behaviour/mh	Multi-problem
		Odds ratios	Odds ratios	Odds ratios	Odds ratios
Males	Crime (ref: no)	0.8	0.5**	0.6**	0.7*
	Substance abuse (ref: no)	2.0**	2.1**	4.9**	7.4**
	Mental health (ref: no)	1.3	1.8*	1.3	1.3
Females	Crime (ref: no)	1.0	0.8	1.1	2.2**
	Substance abuse (ref: no)	0.6	1.9**	2.6**	2.7**
	Mental health (ref: no)	0.8	1.6	1.5	0.8

*p<.05; **p<.01 (two-tailed tests)

Among the females, having been placed in whole or in part as a result of involvements in crime is associated with an increased likelihood of presenting at admission with multiple-problems, whereas among the males, where crime is of course the dominant reason for placement (cf. Table 2.1) this is in fact associated with a significantly lower likelihood of presenting with a general problem profile that places one among the groups with the highest levels of problems. Instead, among the males, those with crime among their reasons for placement are over-represented among the 'low-problem' youth. Among female special approved home clients, there appears to be a tendency whereby having mental health problems registered among one's reasons for placement may be associated with a higher likelihood of having a problem profile that places one in each of the two groups of spike clusters. This tendency is not sufficiently strong for the odds-ratios to reach statistical significance, however. Among the males, having mental health problems registered among one's reasons for placement is significantly associated with an increased likelihood for a problem profile with a spike on one of the family/school dimensions, but otherwise there is little to indicate that this reason for placement is significantly correlated with membership of any of the other problem-load groupings.

When the interviewer-rating based indicator is employed (Table 2.10) neither crime nor mental health problems among a youths' reasons for placement appear to be correlated with any significant increase or decrease in the likelihood of having a high problem-load at admission.

TABLE 2.10.
Multinomial logistic regression models examining the relationship between reasons for placement (crime, substance abuse, mental health problems) and scores on the interviewer-rating based indicator of problem load at admission (low-problem, low-mid-range high-mid-range, multiple-problem). Youths admitted to special approved homes 1997-2001. By gender.

Reason for placement		Problem load (ref: low problem clusters)		
		Low-mid	High-mid	Multi-problem
		Odds ratios	Odds ratios	Odds ratios
Males	Crime (ref: no)	1.0	1.2	1.2
	Substance abuse (ref: no)	1.5**	2.5**	3.9**
	Mental health (ref: no)	1.1	1.1	0.8
Females	Crime (ref: no)	1.4	1.6	2.2
	Substance abuse (ref: no)	2.0**	3.8**	5.3**
	Mental health (ref: no)	1.0	1.0	0.8

2.8 Summary

The initial examination of the distribution of reasons for placement across special approved home clients in the different sex/age groups indicated substantial differences in the reasons underlying the youths' institutionalisation both across the sexes and by age. Males appear much more likely than females to have been placed in whole or in part as a result of involvements in crime, whereas mental health problems, at least in the older two age groups, are more likely to be cited among the females' reasons for placement than they are among the males'. As regards age, there is a clear trend among both males and females, for substance abuse problems to become increasingly important as the reason for special approved home placements with increasing age. Within the oldest age group, substance abuse problems constitute the central reason for the placement among female clients (with four of five of the sample members in this age group having been placed in whole or in part as a result of substance abuse problems). Among the males, criminality dominates among the reasons for placement for youths under seventeen years of age at admission, but substance abuse problems become equally important as criminality as a reason for the youths' placement in special approved homes among the oldest group of youths.

As was noted by Berg in her (2002) analysis of problem syndromes among girls admitted to special approved homes, the profiles emerging from the cluster analysis presented above provide an indication of the broad range of problems and problem-combinations presented by youths at admission to these institutions. The comparison of interviewer-rating scores for the 'multiple-problem' and 'low-problem' clusters respectively across the majority of the dimensions included in the cluster analysis provides further confir-

mation of the presence of substantial differences in the levels of problems among those admitted to special approved homes, and of the likely difficulties associated with the need to present differentiated care alternatives to meet the very diverse care-needs of this client group.

The final analysis presented in this section of the report indicates that among both male and female clients, youths admitted in part or in whole as a result of substance abuse problems are those most likely to present with relatively high levels of problems across a range of behavioural and psychosocial domains. Findings relating to the other reasons for placement varied somewhat across the two indicators of problem-load employed in the analyses.

A further question of interest in this context is that of the extent to which differences in problem levels are associated with differences in the level of intervention associated with the youths' care career in special approved homes. Of particular interest in the context of institutionalisations the majority of which involve compulsory placements without the consent of either the youth or his/her parent/guardian, is the question of whether those youths reporting low levels of problems, and among whom interviewer ratings also suggest low problem levels, are released from compulsory care more quickly than those with more substantial problems, and for whom there are thus indications that longer placements, and in particular placements involving some form of treatment provision, may be required.

The next section of the report therefore takes the analysis a step further, and examines the relationship between the extent of problems at admission and the nature of the care career undergone during the youths' stay in special approved homes.

3. Care careers in special approved homes

This section of the report explores relationships between reasons for placement, the extent of the youths' problem-load at admission, and the care career they then undergo during their time in special approved homes. It begins by presenting the categorisation of care career types that is employed in the subsequent analyses. This categorisation builds on both the time spent in special approved homes and the time spent in acute/assessment units and treatment units respectively. The categorisation proceeds on the basis of a view that short periods of institutional care spent exclusively in acute/assessment units represent the least intrusive form of intervention, whereas longer periods in treatment units constitute the most intrusive. Logistic regression models are then employed to examine the relationship between reasons for placement and problem-load at admission and the different types of care career.

3.1 Categorisation of care careers

The division of care career forms employed in the following analyses is based on data collected from Statens institutionsstyrelse's client administrative database, KIA. This database includes information both on the units at which SiS clients have been placed during their stay at special approved homes and also any time they have spent absconding from these institutions. These data were then supplemented with information collected from the special approved homes' plans of operations for each year covered by the study as to which units were acute and /or assessment units and which were treatment units during a given year.

For those youths who have only been placed in acute/assessment units, the categorisation into care career types is based on the total 'effective care time' in special approved homes (i.e. that time when the youth in question had actually been in the care of the institution, with possible periods of absconding discounted), whereas for those who had spent time in treatment units, the categorisation is based on the 'effective care time' spent specifically in treatment units.

It is not uncommon for youths released from a special approved home after a relatively short stay in an acute/assessment unit to be readmitted within a few weeks, and of those released after a short placement [22] in the current sample, approximately ten percent were

22 i.e. a placement of less than three months duration.

readmitted and spent time in a treatment unit in connection with this subsequent admission. It was therefore decided that for the youths readmitted to special approved homes within four months of release, the specification of the care career would include the period spent in special approved homes subsequent to readmission, provided that this subsequent readmission involved a period of at least an additional month in institutional care. Thus for these youths, the care career is based on what is regarded as a single stay in special approved homes, but one which includes a short intermission involving a period of residence outside of the special approved home system.

Table 3.1 presents the original five category division into care career types. The column 'time in care' presents both the median and mean numbers of days in care broken down into the time spent in treatment units and the total time spent in care (including time spent in both treatment and acute/assessment units). In those cases where a period of institutionalisation has also included one or more stays in a detoxification unit, this time is counted among the days spent in acute/assessment units.

TABLE 3.1
Distribution of youths placed in special approved homes 1997-2001 with interview recorded in ADAD-database across types of care career. N=2624[23]

Care career type	Proportion of sample % (n)	Length of placement (days)			
		Total time in care		Time spent in treatment units	
		Mean	Md	Mean	Md
Short acute/assessment (< 3 months)	43 (1122)	51	56	0	0
Long acute/assessment, (> 3 months)	16 (425)	154	120	0	0
Short treatment (< 3 months)	7 (195)	123	111	46	47
Mid-range treatment (3 months – 1 year)	16 (412)	308	298	209	202
Long treatment (> 1 year)	18 (470)	773	707	660	611

23 The number of youths included in these tables differs slightly from those included in the presentations on admission problems presented earlier. Youths for whom the ADAD interview did not take place within two months of admission are included in the presentation of the distribution of care career categories within the sample and across age and gender groups, but they are excluded from the analyses that include the problem-profile variable. The small number of the original sample whose individual identity number, as recorded in the ADAD database, could not be found in the KIA database are missing from the presentation, however (25 'cases'). Since none of these ID numbers were found in any of the follow-up registers either, the most likely explanation is that they were simply mis-written at the time of the data being entered into the ADAD database.

As can be seen from Table 3.1, viewed on the basis of the distribution of clients across different types of care career, the work of the special approved homes is focused to a substantial extent on the provision of acute and assessment placements, and then largely in association with relatively short periods of institutionalisation (i.e. of less than three months duration). Almost 60% of the youths in the sample leave these institutions having spent no time in treatment units. Approximately 34 per cent spend over three months at one or more treatment units, and less than twenty per cent are placed in treatment units for over a year. Since the group with a short period in treatment units (i.e. less than three months) was very small, and since the time spent in care by this group was very similar to that of the group with a long acute/assessment placements, these two groups were combined in order to avoid having to work with overly small cell frequencies.

3.2 Sex and age

Table 3.2 indicates that for both sexes there is a clear correlation between age and the likelihood of having a care career involving a long period in one or more treatment units ($p<.001$). Among the boys aged under fifteen, for example, over 30 per cent of the sample has spent over a year in treatment units in the course of their stay in SiS care. The corresponding figure for the girls in this age-group is 22 per cent. Among those aged seventeen and over, by contrast, the corresponding proportions are eleven per cent among the boys and approximately nine per cent among the girls. The proportions in the short-term acute/assessment-only group are more stable, varying between 37 and 46 per cent across all six sex/age groups.

Further, with the exception of the youngest age group, where there are certain differences in the distribution of male and female clients across the care career types ($p<.05$), boys and girls appear to be distributed across the different types of care career in a very similar fashion. This is in itself an interesting result perhaps, given the differences in the types of problem presented by girls and boys at admission to special approved homes (as exemplified by Table 2.1 for example, which presents the 'reasons for placement' by sex and age).

TABLE 3.2
Distribution of youths placed in special approved homes 1997-2001 with interview recorded in ADAD-database across types of care career. By gender and age group. N=2624

Age	Care career type		Proportion of respective sex/ age group (%)	
			Males	Females
12-14	1	Short acute/assessment	40	46
	2	Long acute/assessment, short treatment	18	26
	3	Mid-length treatment	10	6
	4	Long treatment	32	22
		Total	**100**	**100**
15-16	1	Short acute/assessment	47	46
	2	Long acute/assessment, short treatment	20	21
	3	Mid-length treatment	15	13
	4	Long treatment	19	21
		Total	**100**	**101**
17-20	1	Short acute/assessment	40	37
	2	Long acute/assessment, short treatment	28	33
	3	Mid-length treatment	21	22
	4	Long treatment	11	9
		Total	**100**	**101**
Total Sample	1	Short acute/assessment	43	43
	2	Long acute/assessment, short treatment	23	26
	3	Mid-length treatment	17	14
	4	Long treatment	18	17
		Total	**100**	**100**

3.3 Problem-load and type of care career

This section examines the question of whether there is a correlation between the extent of youths' problems at admission and the type of care career they undergo during their time in special approved homes. The presentation focuses on the two extremes of the care career categorisation. Tables 3.3 and 3.4 present multivariate binary logistic regression models focusing on the likelihood of having a certain type of care career given different types of problems at admission, as manifested in the categorisation of the cluster analysis of problem profiles presented in the previous section of the report.

Once again the correlations are presented in terms of 'odds-ratios', which specify the increase in the likelihood for a given outcome (in the first instance of being released from special approved home care after a period of no more than three months in acute/assessment units) that is associated with a certain characteristic. An odds-ratio significantly

greater than 1.0 indicates that a given variable is associated with an increased likelihood of having this kind of care career, given controls for the other independent variables included in the analysis. The independent variables are all categorical, and a reference category is specified for each, marked as (R) in the tables. Thus the correlations for the age-group variable tell us to what extent it is more or less likely for 12-14 year-olds and for 15-16 year-olds to be released from care after at most three months by comparison with the 17-20 year-olds (the reference category).

TABLE 3.3.

Multivariate binary logistic regression models examining factors associated with the likelihood of having a short-term acute/assessment placement (of less than 3 months). Problem-load variable coded with multiple-problem clusters as the reference category.

Independent variables		Odds ratios	
		Model 1	Model 2
Sex	Male (R)	1.0	1.0
	Female	0.9	0.9
Age group	12-14	0.9	0.9
	15-16	1.2	1.2
	17-20 (R)	1.0	1.0
Reasons for placement	Crime (ref: no)	0.8**	0.8**
	Substance abuse (ref: no)	0.8***	0.9
	Mental health (ref: no)	1.1	1.1
Problem-load	Low-problem		1.8***
	Mid-range		1.4**
	Spike family/school		1.4*
	Spike-behaviour/mental health		1.1
	Multi-problem (R)		1.0
-2 log likelihood		2952.6	2931.3
	Model chi2	19.1***	40.4***
	Model change		21.3***

*p<.10; **p<.05; ***p<.01 (two-tailed tests)

Interpreting the coefficients in Model 1, we find no significant differences by gender or age as regards the likelihood of having only a short period of care in a special approved home. When the problem-load variable is excluded from the model, placements for both crime and substance abuse appear to be associated with a significantly *lower* likelihood that the youth in question will be released after only a short acute/assessment placement (odds ratios < 1). When the problem-load variable is introduced, i.e. in Model 2, and specifying the youths in the multiple-problem clusters as the reference category, we find that three of the remaining four cluster groupings appear more likely than the multiple-problem youth to spend only a short period in care in a special approved home. These comprise the low-problem clusters, the mid-range problem clusters, and those with substantially elevated levels of problems in relation only to the family or school domains (although the relationship between a short-term placement and membership of a cluster with a spike on one of the family/school dimensions is significant only at the $p<0.1$ level).

Those with substantially elevated levels of problems in relation to one of the behavioural/ mental health dimensions are no more likely to leave special approved homes after only a short period in care than their counterparts in the multiple problem clusters. The size of the -2 log likelihood statistic decreases significantly between Model 1 and Model 2, indicating that the inclusion of the problem-load variable produces a model with a significantly better 'fit' to the data. Thus the addition of the problem-load variables produces a model which better explains the likelihood of having a short care career than the background variables and the reasons for placement alone. This indicates that the extent of a youth's problem load plays a significant role in relation to the likelihood of leaving a special approved home after only a short period of institutional care in one or more acute/assessment units. A similar model constructed instead using the interviewer-ratings based problem-load variable produced more or less identical results.

By shifting the reference category for the problem profile variable from the *multiple-problem clusters* to the *low-problem clusters*, it is possible also to see which groups, if any, are less likely than members of these low-problem groups to be placed for a short period only in acute/assessment units. When the model is instead specified in this way (See Appendix, Table A5), the analysis shows that all of the other four problem-load groupings (mid-range, spike family/school, spike behaviour/mental health and multiple-problem) appear to be less likely than the low-problem clusters to have a care career lasting three months or less, with the multiple problem clusters and clusters with a spike on one of the behavioural/mental health dimensions being *least likely* to do so.

Looking to the most intrusive end of the care career spectrum, we find that there are again no substantive differences between males and females, this time as regards the likelihood of having a *long-term treatment placement*. Age however is a highly significant factor in relation to the likelihood of spending a long period in treatment at a special approved home. Both 15-16 year olds, and (even more so) those aged 12-14 are substantially more likely than their counterparts aged 17-20 to be placed in treatment units for over a

TABLE 3.4.
Multivariate binary logistic regression models examining factors associated with the likelihood of having a long-term treatment placement (over 1 year in treatment unit(s)). Problem profile variables coded with low-problem clusters as the reference category.

Independent variables		Odds ratios	
		Model 3	Model 4
Sex	Male (R)	1.0	1.0
	Female	0.9	0.9
Age group	12-14	3.2***	3.1***
	15-16	1.8***	1.8***
	17-20 (R)	1.0	1.0
Reasons for placement	Crime (ref: no)	1.3**	1.3**
	Substance abuse (ref: no)	0.8	0.7**
	Mental health (ref: no)	1.0	1.0
	Problem profile variables		
Problem-load	Low-problem		1.0
	Mid-range		1.1 ns
	Spike family/school		1.0 ns
	Spike-behaviour/mental health		1.4*
	Multi-problem (R)		1.4*
	-2 log likelihood	2952.6	2931.3
	Model chi2	19.1***	40.4***
	Model change		21.3***

*p<.10; **p<.05; ***p<.01 (two-tailed tests)

year in connection with their stay in special approved homes. Table 3.4 also indicates that given controls for the other variables included in the models, youths placed as a result of involvements in crime are also significantly more likely than those not placed for this reason to have a care career involving over a year in treatment units. And once controls are introduced for problem-load at admission, youths placed as a result of substance abuse problems appear to be significantly *less* likely to spend over a year in treatment units than those placed for other reasons.

Shifting the focus once again to the problem-load variable, the reference category has been shifted for the purposes of this analysis to the low-problem profile group, since the expectation, if problem-load is significantly associated with the likelihood of a long care career, would be for this to be the group least likely to be placed in treatment units for over a year. We would then expect that at least some of the other profile groups, and perhaps the multiple-problem groups in particular, would be more likely than the low-problem clusters to experience the longest, and most intrusive form of care career. The odd-ratios for two of the other four problem-load groups, namely the multiple problem clusters and those with a spike on one of the behaviour/mental health dimensions, do

indeed indicate that the relationship between problem-load and the likelihood of a long period in treatment goes in the expected direction. These odd-ratios only reach statistical significance at the 0.1 level however. Further, since the change in the -2 log likelihood statistic between Models 3 and 4 is very small, and not sufficient to indicate any substantive improvement in the fit to the data, it is difficult to conclude on the basis of this model that self-reported problem-load at admission appears to have any major impact on the likelihood that youths will spend over a year in treatment in the course of their care career in special approved homes, given controls for sex, age and the reasons for placement recorded in the ADAD and KIA databases.

When the model is instead specified using the interviewer-rating based problem-load variable, however, there are clear indications that problem load does in fact play a significant role in the likelihood that youths will spend over a year in treatment. In this model, all three of the low-mid-range, high-mid-range and multiple problem groups are significantly more likely than the low problem group to spend over a year in treatment units.

TABLE 3.5.
Multivariate binary logistic regression model examining factors associated with the likelihood of having a long-term treatment placement (over 1 year in treatment unit(s)). Interviewer-rating problem-load variable coded with low-problem youth as the reference category.

Independent variables		Odds ratios
Sex	Male (R)	1.0
	Female	1.0
Age group	12-14	3.1***
	15-16	1.9***
	17-20 (R)	1.0
Reasons for placement	Crime (ref: no)	1.2
	Substance abuse (ref: no)	0.8*
	Mental health (ref: no)	1.1
Problem load variables		
Problem-load	Low-problem (R)	1.0
	Low mid-range	1.4**
	High-mid-range	1.7***
	Multi-problem	2.3***
-2 log likelihood		1902.8
	Model chi2	90.1***
	Model change	

*p<.10; **p<.05; ***p<.01 (two-tailed tests)

3.4 Summary

This chapter began by presenting data showing the distribution of clients across different types of care career which indicates that the work of the special approved homes is focused to a substantial extent on the provision of acute and assessment placements, and then largely in association with relatively short periods of institutionalisation (i.e. of less than three months duration). Almost 60% of the youths in the sample left these institutions having spent no time in treatment units. Approximately one-third spent over three months at one or more treatment units, and less than one in five had been placed in treatment units for over a year.

When the relationship between problem-load at admission and type of care career is examined on the basis of logistic regression models, the findings suggest that given controls for sex, age, and reasons for placement, self-reported problem-load at admission is significantly associated with the likelihood of having a placement that extends beyond the three month cut-off limit for the shortest form of acute/assessment placement. *Self-reported* problem-load appears however to have a limited effect on the likelihood of undergoing the most intrusive form of treatment career specified in the context of this study. On the other hand, the level of the youths' problems as measured by the *interviewer ratings* has a significant effect on the likelihood of the different forms of care career at both ends of the career spectrum. Age however appears to be at least equally important as interviewer-rated problem-load at admission, and much more important than the reason a youth has been placed (i.e. in terms of crime, substance abuse or mental health problems) as regards the likelihood of the care career involving over a year in a treatment unit.

4. Mortality, registered crime, drug/alcohol and mental health problems subsequent to release from care

4.1 Introduction

The final two sections of the report present data relating to what may be termed the youths' post-care careers along three dimensions: registered involvements in crime, drug/alcohol problems and registered mental health problems. Information is also presented relating to the small number of youths registered as having died within three years of their release from care. As was described in the introduction to the report, the data are drawn from a number of different registers. Data on crime are drawn from the national Register of Suspected Offenders, from the national Register of Convicted Persons and data on periods spent in prison are drawn from the register maintained by the Swedish Prison and Probation Service. For the reasons outlined in the introduction, the Register of Suspected offenders is employed as the most central of these data sources in relation to the follow-up. Data on drug/alcohol problems have been collected from two sources, these being on the one hand data on alcohol and drug offences drawn from the Register of Suspected Offenders, and on the other, data from the Swedish Hospital Discharge Register on admissions to hospital involving a drug or alcohol diagnosis. Data on admissions involving a registered mental health diagnosis are drawn from this same register. Mortality data are drawn from the Cause of Death register, which, like Hospital Discharge Register is administered by the Centre for Epidemiology (EPC) at the Swedish National Board of Health and Welfare.

4.2 Time frames and problems relating to variations in follow-up times within the sample

Data collected from the Cause of Death Register and the Hospital Discharge Register relate to the period between January 1997 and December 2002, whereas the data from the criminal justice registers include information for the period to the end of 2003. Descriptive data from these registers are presented for periods of one, two and three years subsequent to the youths' release from special approved homes. Inevitably, follow-up times are on balance shorter for those youths who have undergone longer periods of

care in special approved homes than they are for those released after only a short acute/assessment stay.

Among those admitted towards the end of the sampling period, only a very small proportion of the youths who have spent over a year in treatment units had been released from care for a sufficiently long period to allow for a follow-up of a full year in relation to the Hospital Discharge and Cause of Death registers. For this reason, the analyses presented in the final section of the report (Chapter 5) are limited to those youths admitted to special approved homes between 1997 and 1999.

The presentation of findings begins in this section of the report, however, by describing the proportions of the entire sample (i.e. all those admitted between 1997 and 2001) recorded in the registers included in the follow-up study within one, two and three years of their release from special approved homes, irrespective of the time these youths have spent in care. For each follow-up period, the subsample examined in this first part of the follow-up presentation includes all those with a follow-up period of at least one, two and three years respectively between their release and the final point at which data are available in a given register. Thus the proportion reoffending within three years of release from special approved homes is based on the number of youths with at least three years between their release date and the end of 2003, whereas the proportion registered for mental health problems within one year of release is based on the number of youths with a follow-up period of at least one year between the conclusion of their time in institutional care and the end of 2002.

No consideration is paid in this initial presentation of follow-up data to the age of the youths at the time of their release from care. Thus within the youngest age-group, the data relating to the criminal justice registers (suspected offences, convictions and prison terms) include a substantial proportion of youths who were under fifteen at the time of their release from special approved homes (and who thus may or may not have been at risk of being recorded in the Register of Suspected Offenders, depending on the practises of a given police authority, and who would not have been registered in the convictions register to the extent that their offences were committed prior to their reaching the age of criminal responsibility on their fifteenth birthday).

Prior to presenting data related more specifically to problems in the areas of crime, substance abuse and mental health respectively, the first three sections of the presentation look at first mortality and then at subsequent contacts with the criminal justice system and finally at hospital admissions associated with alcohol, narcotics or mental health diagnoses. The register data are then broken down and presented along each of the three dimensions covered by the 'reasons for placement' referred to earlier in the text.

4.3 Mortality: Cause of Death Register

For the sake of clarity, this brief descriptive presentation of mortality among the youths released from special approved homes during the study period refers to individuals and not to 'cases'. Of the youths released from care prior to the end of 2001, (2172 *individuals*), a total of 32 had been recorded in the Cause of Death Register within three years of their (most recent) release from special approved home care.

Of these, twelve had died within a year of release from special approved homes and a further fourteen within two years. Approximately eighty percent (26 of 32) were males. Ages at the time of death ranged between sixteen (one youth) and twenty-two. Eighty-four percent (27 of 32) were aged eighteen or over.

Substance abuse problems (61% of cases) and/or crime (65%) were the most common reasons for placement among those with deaths recorded in the Cause of Death Register, with only thirteen per cent having mental health problems registered among their reasons for placement. In 50 percent of cases drugs and/or alcohol were among the underlying or contributory causes of death (and of these the vast majority – 94%, or fifteen of sixteen – involved drugs). Sixteen percent of the youths had committed suicide (four males and one female), six had been involved in fatal accidents (all male), and three had died as a result of some form of assault (once again all male). The remaining two individuals had died as a result of illness.

4.4. Contacts with the criminal justice system

Table 4.1 presents data on the proportions of the special approved home sample with registered contacts with the criminal justice system subsequent to their release from institutional care.

The table shows that among the males, 32 percent of those aged 12-14 at admission to special approved homes with a follow-up period of at least twelve months subsequent to release, had been recorded in the Register of Suspected Offenders in connection with a new offence within one year of release from special approved homes. The corresponding proportions among 15-16 and 17-20 year-old males are 52 and 58 percent respectively. Within the youngest age-group, this figure will represent an underestimation of those who have been in contact with the police, since, as was noted above, many of those aged under fifteen during some part of the follow-up period will not have been recorded in the register in connection with offences known to the police during this period.

The level of the youngest age group's underrepresentation within the Register of Suspected Offenders decreases as we move from the one-year follow-up period to the two-

TABLE 4.1.
Proportions of special approved home clients suspected of a new offence, convicted of an offence (given a new suspected offence) and sentenced to a prison term (given a new suspected offence and conviction) within 1 year, 2 years and 3 years of release from special approved home care. Youths admitted to special approved homes 1997-2001. All youths with a follow-up period of at least 12, 24 and 36 months to the end of 2003 respectively. By age and gender. Percent.

	Proportion (%) with registered suspected offence, conviction for offence, and prison term (all offences)								
	Registered suspect	Registered conviction	Prison term	(n)		Registered suspect	Registered conviction	Prison term	(n)
Males Within:					**Females** Within:				
1 year					**1 year**				
All 12-14	32	17	<1	(314)	All 12-14	13	6	0	(189)
All 15-16	52	41	1	(707)	All 15-16	21	16	0	(320)
All 17-20	58	43	8	(706)	All 17-20	28	18	<1	(250)
2 years					**2 years**				
All 12-14	59	47	<1	(283)	All 12-14	29	19	0	(167)
All 15-16	71	65	5	(624)	All 15-16	31	28	<1	(279)
All 17-20	75	67	21	(643)	All 17-20	42	34	3	(235)
3 years					**3 years**				
All 12-14	73	67	2	(213)	All 12-14	36	28	0	(124)
All 15-16	81	77	12	(488)	All 15-16	38	34	1	(219)
All 17-20	81	77	33	(513)	All 17-20	48	43	4	(181)

and three-year periods, since by this time, the vast majority are over fifteen years of age, and there is a good chance that those who have continued with some form of persistent involvement in crime following their release from care will also have been registered as suspects in connection with one or more of their offences. This is reflected in the figures presented in Table 4.1, where it can be seen that the size of the difference between the older and younger age-groups in the proportions registered for a new offence within three years of the conclusion of their institutional placement are much smaller than the differences in the proportions registered for a new offence within one year. Of those males aged fifteen and over at the time of their admission to special approved homes, and who have a follow-up period of at least three years between the time of their release from care and the end of 2003, 81 percent have been recorded as suspects in connection with a new offence within three years of release, as compared with 73 percent of those aged 12-14 at the time of their admission to special approved homes.

Substantial differences remain, however, in the size of the proportions sentenced to a prison term subsequent to a new offence, with 33 percent of the oldest age group being sentenced to a prison term within three years of the conclusion of their time in special approved homes (i.e. 40 percent of those suspected of a new offence subsequent to their

time in SiS care), as compared with only two percent of the males in the youngest age-group (i.e. just under three percent of those suspected of a new offence). This reflects the established Swedish practice of only sentencing youths under the age of eighteen to a term in adult prison in exceptional circumstances.

The pattern in relation to increasing age is much the same among the female special approved clients, with significantly larger proportions of those aged fifteen and over being registered as suspects in connection with a new offence within a year of their release from special approved homes by comparison with the youngest female clients. Unlike their male counterparts, however, the oldest group of females (i.e. those aged 17-20 at the time of admission to special approved homes) remain substantially more likely than either of the two younger age-groups to be registered for a new offence within two and three years of release.

By comparison with the males, the females admitted to special approved homes are significantly less likely to be suspected of offences subsequent to their release from care, irrespective of their age or the length of the follow-up period examined, and among those who are suspected of offences, they are significantly less likely than the male clients to be sentenced to a prison term as a result of these new offences.

Among the group of females that contains the highest proportion of persons sentenced to a prison term within three years of release from special approved homes, i.e. those aged 17-20 at admission, approximately eight percent of those suspected of a new offence are then also sentenced to a prison term within three years of release, for example, as compared with the figure of 40 percent among the males in this age-group just noted.

4.5 Hospital admissions with an alcohol/ narcotics diagnosis or a mental health diagnosis

Table 4.2 presents data from the Hospital Discharge register on the proportions of special approved home clients admitted to hospital with an alcohol or narcotics diagnosis or a mental health diagnosis within one, two and three years of release from special approved homes.

Firstly, it can be noted that the proportions of youths registered in the Hospital Discharge Register with an alcohol/drugs or mental health diagnosis are substantially smaller (particularly among the males) than those registered as having been in contact with the criminal justice system subsequent to their release from special approved home care. Here too, however, we find age differences in the proportions of youths registered in connection with hospital admissions involving the relevant ICD-10 diagnoses. This time the age

TABLE 4.2.
Proportion of special approved home clients admitted to hospital with drug and/or alcohol and/or mental health diagnosis within 1 year, 2 years and 3 years of release from care. Youths admitted to special approved homes 1997-2001. All youths with follow-up period of at least 12, 24 and 36 months to the end of 2002 respectively. By age and gender. Per cent.

			Proportion (%) admitted to hospital with drug/alcohol/mental health diagnosis					
			Within 1 year	(n)	Within 2 years	(n)	Within 3 years	(n)
Males	All	12-14	3	(283)	7	(213)	9	(139)
	All	15-16	4	(624)	8	(488)	13	(330)
	All	17-20	10	(643)	20	(513)	26	(371)
Females	All	12-14	10	(167)	14	(124)	15	(86)
	All	15-16	12	(279)	19	(219)	21	(143)
	All	17-20	16	(235)	26	(181)	32	(139)

differences are clearer among the males than they are among the females, with the proportion of the oldest group of males admitted to hospital with an alcohol/drug or mental health diagnosis consistently being around three times the size of that found among the youngest age-group of males, irrespective of the length of the follow-up period. Among the females, by contrast, members of the oldest age-group are only 1.5 to 2 times as likely as those aged 12-14 at admission to be admitted to hospital with one of these diagnoses within one, two or three years of their release from a special approved home.

In stark contrast with the pattern noted in relation to contacts with the criminal justice system, female special approved home clients are consistently more likely to have been registered in the Hospital Discharge Register with an alcohol/drug or mental health diagnosis than their male counterparts, across all age-groups and follow-up times.

It was noted towards the beginning of this report that reasons for placement vary quite substantially by both age and gender, and looking at hospital admissions for all narcotics/alcohol and mental health diagnosis in this way, or looking at registered reoffending across both drug/alcohol offences and non-drug/alcohol offences, provides no opportunity to differentiate between different groups of clients on the basis of their problems subsequent to release along the individual dimensions of crime, substance abuse and mental health difficulties. The register data were therefore broken down into indicators of the different 'problem dimensions' of crime, drug/alcohol problems and mental health problems.

Beginning with non-drug/alcohol related crime, then, the following sections of the text present the proportions with registered problems in the areas of crime, substance abuse and mental health subsequent to their release from special approved homes both by sex and age, and also by whether or not they were placed in whole or in part as a result of involvement in crime, substance abuse or for mental health problems respectively.

4.6 Non-drug/alcohol related crime: Proportions of suspected offenders

TABLE 4.3:.
Proportions registered as suspects in connection with a new offence (Register of Suspected Offenders) at conclusion of police investigation within 1 year, 2 years and 3 years of release from care (presentation includes all those with follow-up time of at least 12, 24 and 36 months to end of 2003 respectively). All youths admitted 1997- 2001. By age, gender and whether or not youth was originally placed in whole or in part as a result of involvement in crime. Percent.

			Proportion (%) registered as suspected of new offence (drug and alcohol offences excluded)		
			Within 1 year	Within 2 years	Within 3 years
Males	All	12-14	30	57	72
	All	15-16	49	66	78
	All	17-20	52	70	78
Females	All	12-14	12	25	34
	All	15-16	18	27	33
	All	17-20	19	32	41
	Placement for crime				
Males	12-14	Yes	36	65	79
		No	19	45	62
	15-16	Yes	52	71	81
		No	40	56	72
	17-20	Yes	58	76	82
		No	42	61	69
Females	12-14	Yes	10	25	36
		No	13	26	34
	15-16	Yes	27	38	40
		No	15	24	31
	17-20	Yes	23	38	42
		No	17	29	41

Table 4.3 presents the proportions of youths registered as having been suspected of a new criminal offence (drug and alcohol offences excluded) within one, two and three years subsequent to their release from special approved home care. The top half of the table presents the data by age and gender, and the bottom half of the table further breaks down the sample into those with and without involvements in crime registered among their reasons for placement in the ADAD database.

When the focus is shifted from all contacts with the justice system to only those contacts that are not related to drug or alcohol offences, the patterns across the different subsamples defined on the basis of sex and age at admission remain very similar to those

presented in Table 4.1 above. Males are much more likely to have been registered for a new offence subsequent to their release from special approved homes, and the proportion registered for a new offence within each of the subsamples increases, as we would expect, with the length of the follow-up period.

Among the males with a follow-up period of one year to the end of 2003, approximately 47 percent have been registered for a new non-alcohol/drug offence within a year of their release from SiS institutions, and among those with a three-year follow-up period, 77 percent have been registered for a new offence within three years of release from institutional care. The corresponding proportions among the females are approximately 17 and 36 percent respectively.

The bottom half of Table 4.3 shows that among the males at least, those placed in whole or in part as a result of involvements in crime are more likely to be registered for a new non-alcohol/drug offence subsequent to their release from special approved homes than are those without crime registered among their reasons for placement (although even among those males without crime registered among their reasons for placement, approximately 70 percent of those with a follow-up period of three years to the end of 2003 have been registered for a new offence within this time-frame – as compared with just over 80 percent of those placed in whole or in part as a result of involvements in crime).

The same pattern is also found consistently among the females aged 15-16 at the time of their admission to special approved homes, as well as among the oldest group of females for the one- and two-year follow-up periods. No differences can be discerned in the likelihood of being registered for a new offence for those with and without crime among their reasons for placement among the youngest group of female special approved home clients, nor among the oldest group when the focus is directed at the three-year follow-up period.

4.7. Drug and alcohol problems 1: persons suspected of narcotics and alcohol offences

Moving on to focus on drug/alcohol problems subsequent to release from special approved home care, the first indicator employed is having been suspected of a new drug or alcohol offence. Table 4.4 presents the proportions of youths registered as having been suspected of such offences within one, two and three years of their release from special approved home care. Once again the top half of the table presents the data by age and gender, and this time the bottom half of the table breaks down the sample into those with and without substance abuse problems registered among their reasons for placement in the ADAD database.

The proportions registered for new drug and alcohol offences are smaller than those registered for other types of offences across each of the subsamples, although once again, males are more likely to have been registered as suspects in connection with offences of this kind than females subsequent to their release from special approved home care. Age appears once again to be an important factor, reflecting both the increasing likelihood of being registered for offences with age, but also the increasing importance with age of substance abuse problems as a reason for placement in special approved homes. Among the oldest groups of males and females, 26 and 18 percent respectively of those with a follow-up period of at least a year have been suspected of a new drug or alcohol offence within a year of release from special approved home care, whereas among those with a follow-up period of at least three years to the end of 2003, the corresponding proportions registered for a new drug or alcohol offence within three years of release from institutional care are 56 and 32 percent respectively.

TABLE 4.4.
Proportions registered as suspects in connection with new drug or alcohol offences (Register of Suspected Offenders) at conclusion of police investigation within 1 year, 2 years and 3 years of release from special approved homes (presentation includes all those with follow-up time of at least 12, 24 and 36 months to the end of 2003 respectively). All youths admitted to special approved homes 1997-2001. By age, gender and whether or not youth was originally placed in whole or in part as a result of substance abuse problems. Percent.

			Proportion (%) registered as suspected of new drug or alcohol offence		
			Within 1 year	Within 2 years	Within 3 years
Males	All	12-14	6	16	25
	All	15-16	15	29	40
	All	17-20	26	44	56
Females	All	12-14	1	7	7
	All	15-16	6	13	17
	All	17-20	18	26	32
	Placement for substance abuse				
Males	12-14	Yes	11	18	26
		No	5	15	24
	15-16	Yes	22	43	53
		No	11	20	32
	17-20	Yes	33	53	65
		No	12	27	39
Females	12-14	Yes	0	11	11
		No	2	6	7
	15-16	Yes	12	23	30
		No	2	5	7
	17-20	Yes	21	32	37
		No	2	4	11

With the exception of the youths aged 12-14 at admission to special approved homes, those with substance abuse among their reasons for placement are significantly more likely to be registered for a new drug or alcohol offence subsequent to their release from institutional care, irrespective of the length of the follow up period, although this pattern is much more pronounced among the female special approved home clients than it is among the males. Looking to the three-year follow-up period and youths aged fifteen or over at the time of admission to special approved homes, for example, females with substance abuse among their reasons for placement are over four times as likely as those without this reason for placement to be registered for a new drug/alcohol offence subsequent to their release from care whereas males placed in whole or in part as a result of substance abuse problems are slightly less than twice as likely to be so registered than other male clients.

4.8. Drug and alcohol problems 2: persons admitted to hospital with narcotics and alcohol diagnoses

Table 4.5 presents the proportions of youths admitted to hospital with a narcotics or alcohol diagnosis within one, two and three years subsequent to their release from special approved home care. Again, the top half of the table presents the data by age and gender, and in the bottom half the sample is broken down into those with and without substance abuse problems registered among their reasons for placement in the ADAD database.

Among the males, the proportions admitted to hospital with a narcotics or alcohol diagnosis are significantly smaller than those registered for a new drug or alcohol offence subsequent to their release from special approved home care. The proportions of females recorded in this register are also somewhat smaller than those noted in the police data, although the difference is not as marked among the female special approved home clients. By comparison with the police data on drug and alcohol offences, where males were considerably more prevalent than females, the two groups are much more evenly represented in the Hospital Discharge Register, although females appear slightly more likely than males to be admitted to hospital with one of the relevant diagnoses within each of the time-frames employed in the follow-up. This pattern is also found when the sample is broken down into those with and without substance abuse registered among their reasons for placement, although it is somewhat less marked among those with substance abuse among their reasons for placement across the majority of subsamples and follow-up times.

Otherwise the pattern appears very similar to that found in the data from the Register of Suspected Offenders. Age again emerges as an important factor, with differences here unlikely to be associated with age-related differences in the chances of being recorded in the register from which the data are drawn. Both the length of the follow-up period, and whether or not youths have substance abuse problems recorded among their reasons for placement in the ADAD database are also important factors.

TABLE 4.5.

Proportions admitted to hospital with alcohol or narcotics diagnosis (Hospital Discharge Register) within 1 year, 2 years and 3 years of release from special approved homes (presentation includes all those with follow-up time of at least 12, 24 and 36 months to the end of 2002 respectively). All youths admitted to special approved homes 1997-2001. By age, gender and whether or not youth was originally place in whole or in part as a result of substance abuse problems. Percent.

			Proportion (%) admitted to hospital with drug or alcohol offence		
			Within 1 year	Within 2 years	Within 3 years
Males	All	12-14	0	3	4
	All	15-16	3	5	8
	All	17-20	9	16	21
Females	All	12-14	1	3	4
	All	15-16	6	11	11
	All	17-20	13	22	28
	Placement for substance abuse				
Males	12-14	Yes	0	2	3
		No	1	3	5
	15-16	Yes	5	9	16
		No	1	2	3
	17-20	Yes	12	21	30
		No	3	6	6
Females	12-14	Yes	0	4	6
		No	2	3	3
	15-16	Yes	12	23	17
		No	2	3	7
	17-20	Yes	15	24	30
		No	4	11	21

4.9. Mental health problems: persons admitted to hospital with mental health diagnosis

The final section of this initial presentation of data from the follow-up registers describes the proportions admitted to hospital with a mental health diagnosis within one, two and three years of release from institutional care (Table 4.6).

TABLE 4.6.
Proportions admitted to hospital with a mental health diagnosis (Hospital Discharge Register) within one year, two years and three years of release from special approved homes (presentation includes all those with follow-up time of at least 12, 24 and 36 months to the end of 2002 respectively). All youths admitted to special approved homes 1997-2001. By age, gender and whether or not youths have mental health problems among their reasons for placement. Percent.

			Proportion (%) admitted to hospital with mental health diagnosis		
			Within 1 year	Within 2 years	Within 3 years
Males	All	12-14	3	5	5
	All	15-16	2	5	9
	All	17-20	4	8	10
Females	All	12-14	9	13	14
	All	15-16	9	12	17
	All	17-20	6	10	10
	Placement for mental health problems				
Males	12-14	Yes	5	7	12
		No	2	4	4
	15-16	Yes	8	15	19
		No	1	3	7
	17-20	Yes	12	20	20
		No	3	7	8
Females	12-14	Yes	16	23	33
		No	6	8	5
	15-16	Yes	22	21	37
		No	5	10	13
	17-20	Yes	11	23	27
		No	3	5	5

As we might expect given the somewhat higher proportion of female institutional clients admitted with mental health problems recorded among their reasons for placement, the females are more likely to be registered in the Hospital Discharge Register within three years of release from special approved homes in connection with a hospital admission involving a mental health diagnosis. Among the youths with a follow-up time of at least

twelve months to the end of 2002, approximately three percent of males and eight percent of females have been admitted to hospital with a mental health diagnosis within a year of their release from special approved homes. Among those with a follow-up time of at least 36 months, approximately nine percent of male clients and fourteen percent of females have been admitted to hospital with a mental health diagnosis within three years of their release from special approved homes.

Among the male clients there is a tendency for the likelihood of post-care mental health related hospital admissions to increase somewhat with age, at least among those with mental health problems recorded among their reasons for placement in the KIA database, but no clear pattern of this kind emerges among the female special approved home clients.

Among both male and female special approved home clients, those with mental health problems registered among their reasons for placement in the KIA database appear substantially more likely to be admitted to hospital with a mental health diagnosis than those with no such registered problems at admission. Among the female clients, 33 percent of 12-14 year olds with mental health problems registered among their reasons for placement have been admitted to hospital with a mental health diagnosis within three years of release from special approved homes. The corresponding figures for 15-16 and 17-20 year olds are 37 percent and 27 percent respectively.

Among the males admitted to special approved homes with mental health problems registered among their reasons for placement, twelve percent of 12-14 year olds have been admitted to hospital with a mental health diagnosis within three years of their release from special approved homes. The corresponding figures among 15-16 year old, and 17-20 year old males are nineteen and twenty percent respectively.

4.10 Summary

To summarise the results of this descriptive presentation of the data drawn from the registers included in the follow-up, then, a total of 32 of the youths released from care prior to the end of 2001 had died within three years of their (most recent) release from special approved homes. Eighty percent of these were males, mirroring the substantial over-representation of males within the sample as a whole, and the majority were over eighteen at the time of death. Drugs or alcohol were involved in fifty percent of the deaths and five of the youths had committed suicide. The remainder had died as a result of fatal accidents, assaults or illness.

Of the youths with a follow-up period of at least a year between the time of their release from special approved homes and the end of 2003, 47 percent of males and 17 percent of females had been registered for a new *non-drug/alcohol offence* within a year of release. The corresponding figures for non-drug/alcohol offences within three years of release were 77 and 36 percent respectively (for those with a follow-up period of at least three years to the end of 2003).

The proportions registered for a new *drug or alcohol offence* within one and three years of release respectively were 18 and 44 percent among the male special approved home clients, and 9 and 20 percent among their female counterparts. Sex differences were not as notable in relation to the proportions who had been admitted to hospital with a drug or alcohol diagnosis subsequent to their release from special approved homes. Among the female institutional clients, seven percent had been admitted to hospital with a diagnosis of this kind within a year of release, and sixteen percent within three years. The corresponding figures for the male clients were five and thirteen percent respectively.

The proportions admitted to hospital with a mental health diagnosis ranged from three percent among the males within one year of release from special approved homes, through eight percent of female institutional clients within this same time frame, up to nine percent (males) and fourteen percent (females) within three years of the youths' release from institutional care.

On each of the dimensions examined (crime, substance abuse, mental health problems), there was a clear correlation between the reasons for placement registered in the ADAD and KIA databases and the proportions of youths recorded in the different registers within the different time frames presented in the tables. These correlations were not so clear among the 12-14 year old clients, but looking at the sample as a whole, 48 percent of those with crime among their reasons for placement had reoffended within one year of the conclusion of their institutional placement, as compared to 24 percent of those for whom involvement in crime had not been registered as a reason for placement. The corresponding proportions for the three year follow-up period were 76 and 50 percent respectively.

Combining the data relating to substance abuse problems from the Register of Suspected Offenders with those from the Hospital Discharge Register, 29 percent of those with substance abuse among their reasons for placement had been recorded in at least one of the registers in relation to some form of drug/alcohol crime or diagnosis within a year of the conclusion of their time in institutional care, while 56 percent had been so registered within three years of the conclusion of their special approved home placement. The corresponding proportions for those without substance abuse registered among their reasons for placement were eight percent (within one year) and 27 percent (three years) respectively.

On the mental health dimension, twelve percent of the youths with mental health problems noted among their reasons for placement in the KIA database had been admitted to hospital with a mental health diagnosis within a year of release from special approved homes, as compared with three percent of those without this reason for placement. Among those with a three year follow-up period to the end of 2002, 24 percent of those with mental health problems among their reasons for placement had been admitted to hospital with a mental health diagnosis, as compared with seven percent of those without this placement reason registered in KIA.

5. Age, gender and relationships between problems at admission, care career in special approved homes and follow-up indicators

5.1 Introduction

This final section of the results presentation examines the bivariate relationships between on the one hand the indicators of the youths' problems at admission to special approved homes and their care careers in these institutions, and on the other the register-based indicators of problems subsequent to release from special approved home care. The focus is directed first at each of the three dimensions examined, i.e. crime, drugs/alcohol, and mental health problems, independently of the others.

It was noted earlier that follow-up times are on balance shorter for those youths who have undergone longer periods of care in special approved homes than they are for those released after only a short acute/assessment stay. Since very few of those admitted towards the end of the sampling period with the longest form of care career were released sufficiently early to allow for a follow-up period of at least a full year, the analyses in this section of the report are limited to those youths admitted to special approved homes between 1997 and 1999. The bivariate analyses based on data from the Register of Suspected Offenders are limited to youths aged fifteen or over at the time of their *release* from special approved homes. Further, the bivariate analyses of correlations between care-career type and outcome measures based on these crime data only include youths aged 15 and over at *admission* to special approved homes. This is due to the fact that youths from the youngest age-group with long care careers are substantially over-represented among those aged fifteen or over at the time of release from special approved homes whereas those with only a short stay in care were very much under-represented in this group.

For the purposes of these analyses, in order to compensate for the differential attrition in terms of follow-up times that existed even among those admitted between 1997 and 1999, the sample was divided into the six sex-age groups employed throughout the report, and within each of these subsections of the sample, weights were assigned to youths with

follow-up times of at least 1 year and 2 years respectively to the end of 2002 (and of 1, 2 and 3 years to the end of 2003). These weights were based on the combination of the youths' problem-load at admission and their care career in special approved homes, and were calculated to balance those missing from the analyses as a result of having an admission towards the end of the sampling period followed by a relatively long stay in care. The weighting procedure thus produced a data set that is representative of the group admitted between 1997 and 1999 in terms of sex, age, care-career type and problem-load, and of combinations of these variables for each of the 1, 2 and 3 year follow-up periods.

All of the analyses presented below were conducted using both weighted and unweighted data. The results from the analyses were very similar irrespective of whether weighted or unweighted data were employed, and the tables therefore present only the results from the analyses conducted with unweighted data.

The bivariate analyses were conducted for follow-up periods of one, two and three years subsequent to release from special approved homes where follow-up data were available to the end of 2003. For analyses exclusively involving data from the Hospital Discharge Register, the analyses are limited to periods of one and two years subsequent to release from special approved homes.

5.2 Registered crime

Table 5.1 presents bivariate correlations (expressed in terms of odds ratios) between the background, problem-load and care-career variables and the likelihood of being registered as a suspect in connection with a new non-drug/alcohol offence within one, two and three years of release from special approved home care. The odds ratios for the sex variable confirm the findings presented in the previous section of the report that males are significantly more likely than females to be suspected of offences subsequent to their release from special approved homes. The table indicates however that while males aged fifteen or over at admission to special approved homes appear on balance to be somewhat more likely than their younger counterparts to be registered for new offences (odds ratios > 1), the differences between the age-groups are not sufficient to reach statistical significance when those who had not yet reached the age of fifteen at the time of their release from care are excluded from the analysis.

The only variable besides sex that appears to be consistently associated with an increased risk for being registered for a new offence subsequent to release across both males and females is having been placed in whole or in part as a result of prior involvement in crime. Odds ratios for this variable are significantly greater than one for males across all three follow-up time frames, and among females for both the one- and two-year follow-

up periods. The problem-load indicator based on the cluster solution does not appear to be correlated with the likelihood of involvement in crime subsequent to release from special approved homes, whereas the indicator based on the interviewer ratings is clearly associated with an increased likelihood of this outcome among the female clients at the upper end of the problem-load scale, particularly in relation to the two- and three-year follow-up periods.

TABLE 5.1.

Bivariate correlations (expressed in odds ratios) between sex, age, reasons for placement, care career type and problem-load, and the likelihood of being registered for a new non drug/alcohol offence within one, two and three years of release from special approved home care respectively. Youths admitted to special approved homes 1997-1999, aged fifteen or over on release from care.

	Registered as suspect in connection with new non-drug/alcohol offence (odds ratios)					
	Within 1 year		Within 2 years		Within 3 years	
Sex (ref. female)						
Male	3.9***		4.7***		3.4***	
	Males	Females	Males	Females	Males	Females
Age at admission (ref. 12-14)						
15-16	1.2	1.5	1.2	0.9	1.6	0.7
17-20	1.4	1.5	1.3	1.2	1.6	1.0
Reasons for placement						
Crime (ref. no)	2.3***	2.0***	2.3***	1.9***	1.9**	1.4
Substance abuse (ref. no)	1.0	1.0	1.1	1.4	1.3*	1.4
Mental health problems (ref. no)	0.6**	0.8	0.7	0.9	0.8	0.7
Care career† (ref. short acute/ assessment only)						
Long assessment/short treatment	1.3	1.7	1.2	1.4	1.3	1.0
Mid-term treatment	1.4	1.4	1.2	1.4	1.2	1.1
Long treatment (> 1 year)	0.9	2.3**	0.8	1.6	1.2	1.4
Problem load 1 (ref. low-problem clusters)						
Mid-range	0.9	1.1	1.2	1.1	1.0	1.2
Spike family/school	0.6	0.5	0.8	0.5	0.8	1.0
Spike behaviour/mental health	1.1	1.2	1.3	1.3	1.4	1.9*
Multiple problem	0.8	1.7	1.3	1.7	1.1	1.9
Problem load 2 (ref. low-problem youth)						
Low-mid-range	0.7	1.5	0.8	1.6	0.9	1.6
High-mid-range	0.9	2.3*	1.0	2.4**	1.2	1.9*
Multiple problem	1.0	2.2*	1.2	3.0**	1.4	2.7**

*p<0.1; **p<.05; ***p<.01

† Analysis restricted to youths aged fifteen and over *at admission*, due to highly skewed attrition on care career variable among those aged twelve to fourteen.

It may be argued that given the large proportion of males suspected of an offence subsequent to their release from care, the crime indicator employed in Table 5.1 does little to differentiate those with more serious crime problems from those whose subsequent involvement in crime may be of a less serious or more temporary nature. To address this issue, a second crime indicator was constructed which was intended to separate those youths with more serious involvements in crime subsequent to release from the remainder of the male sample. The follow-up periods were first divided up into three month periods and the new indicator was constructed such that those youths suspected of a crime in at least two separate three-month periods, or sentenced to a prison term following a conviction for a non-drug/alcohol offence were defined as "high-crime" youths, and the remainder as "low-crime" youth. Defined in this way, the "high-crime" group comprised 26 percent of males aged over fifteen at the time of their release for the 1-year follow-up period, 46 percent for the 2-year follow-up period, and 47 percent for the 3-year follow-up period. Even so, it was only in relation to the female special approved home clients that significant correlations were found between problem-load at admission and membership of the high-crime group, and then only in relation to the interviewer-rating based problem-load variable (Gamma for 1 year follow-up: 0.21; 2 years: 0.29; 3 years: 0.23; $p<.05$).

5.3 Registered drug/alcohol problems

Table 5.2 presents bivariate correlations between the background, problem-load and care-career variables and the likelihood of having been registered in the Hospital Discharge Register and/or the Register of Suspected offenders in association with some form of drug or alcohol problem within one, two and three years of release from special approved home care. Once again, the odds ratios for the sex variable indicate that males are significantly more likely than females to be registered for some form of drug or alcohol problem subsequent to their release from special approved homes (this is not the case, however, when the analysis is restricted to data from the Hospital Discharge Register). Youths aged 17-20 at admission are significantly more likely than those in the youngest age-group to be registered in connection with drug or alcohol problems subsequent to release from special approved homes, irrespective of their sex or the length of the follow-up period examined (reflecting the centrality of substance abuse problems among the youths' reasons for placement in this age group). Among both males and females, multiple-problem youth are more likely than low-problem youth to be registered for problems of this type during the period subsequent to the conclusion of their time in SiS care, and among the males, the same is true for those from the clusters with a spike on one of the behavioural or mental health dimensions. The findings are similar when the interviewer-rating based problem-load measure is employed, with both males and females from the high problem-load groupings being more likely to be registered for drug/alcohol prob-

lems over the course of the period following release from special approved home care. In addition, among the males, youths undergoing each of the longer treatment careers are more likely than those with only a short acute/assessment placement to be registered in connection with drug or alcohol problems subsequent to release, although no consistent, similar pattern is found among the female special approved home clients.

TABLE 5.2.

Bivariate correlations (expressed in odds ratios) between sex, age, reasons for placement, care career type and problem load, and the likelihood of being registered in Hospital Discharge Register with a drug or alcohol diagnosis and/or being registered for a new drug/alcohol offence[24] within one, two and three years of release from special approved home care respectively. Males and females admitted to special approved homes 1997-1999, aged fifteen or over on release from care.

	Registered for drug/alcohol problems (odds ratios)					
	Within 1 year		Within 2 years		Within 3 years	
Sex (ref. female)						
Male	1.4**		1.7***		3.0***	
	Males	Females	Males	Females	Males	Females
Age at admission (ref. 12-14)						
16-17	1.4	3.5	1.2	1.3	1.7	1.1
18-20	2.7*	9.2**	2.4***	3.5**	2.9***	2.7*
Reasons for placement						
Crime (ref. no)	0.7*	2.1**	0.8	1.3	1.0	1.5
Substance abuse (ref. no)	4.6***	6.5***	3.9***	5.9***	2.8***	5.3***
Mental health problems (ref. no)	0.7	0.9	0.9	0.8	0.6**	0.8
Care career† (ref. short acute/ assessment only)						
Long assessment/short treatment	2.5***	1.0	2.3***	1.1	2.0***	0.7
Mid-term treatment	2.9***	1.9*	2.5***	1.8*	1.9***	1.1
Long treatment (> 1 year)	1.6*	2.6**	1.8**	1.8	1.6**	0.9
Problem load 1 (ref. low-problem clusters)						
Mid-range	1.2	1.2	1.2	0.9	1.2	1.2
Spike family/school	1.3	0.2	1.0	0.5	1.3	0.5
Spike behaviour/mental health	2.8***	1.7	2.4***	1.7	1.9***	1.9
Multiple problem	2.7***	3.3***	2.2***	2.9**	1.8***	3.1***
Problem load 2 (ref. low-problem youth)						
Low-mid-range	0.8	2.3	0.8	1.7	1.6	1.6
High-mid-range	1.4	7.1***	1.7**	5.1***	1.8***	4.8***
Multiple problem	1.6*	7.5***	2.3***	6.3***	2.6***	7.0***

*p<0.1; **p<.05; ***p<.01

† Analysis restricted to youths aged fifteen and over *at admission*, due to disproportionate attrition on care career variable among those aged twelve to fourteen in relation to available follow-up times.

24 Data from hospital discharge register limited to years one and two subsequent to release, odds ratios for year three based exclusively on data from Register of Suspected Offenders.

5.4 Registered mental health problems

Table 5.3 presents the correlations between the various background, problem-load and care-career variables and the likelihood of being registered in the Hospital Discharge Register with a mental health diagnosis within one and two years of release from special approved homes. Here it is the female special approved clients that are most likely to be registered with problems of this particular kind subsequent to their release from special approved home care. There are no significant differences by age among either the male or the female special approved home clients.

TABLE 5.3.

Bivariate correlations (expressed in odds ratios) between sex, age, reasons for placement, care-career type and problem load, and the likelihood of being registered in hospital discharge register with mental health diagnosis within one and two years of release from special approved home care respectively. Males and females admitted to special approved homes 1997-1999, all ages.

	Registered with mental health diagnosis (odds ratios)			
	Within 1 year		Within 2 years	
Sex (ref. male)				
Female	2.6***		2.2***	
	Males	Females	Males	Females
Age at admission (ref. 12-14)				
15-16	0.6	1.1	1.1	0.9
17-20	1.3	0.7	1.9	0.7
Reasons for placement				
Crime (ref. no)	0.6*	1.8	0.6*	1.0
Substance abuse (ref. no)	2.2**	0.5**	1.7*	0.6
Mental health problems (ref. no)	2.9***	5.5***	3.4***	3.3***
Care career† (ref. short acute/ assessment only)				
Long assessment/short treatment	1.6	1.5	1.1	1.2
Mid-term treatment	0.7	0.7	0.7	0.8
Long treatment (> 1 year)	0.7	1.3	1.1	1.2
Problem load 1 (ref. low-problem clusters)				
Mid-range	3.1	0.7	4.8**	1.0
Spike family/school	6.3**	0.8	5.1**	1.8
Spike behaviour/mental health	5.8**	2.5*	5.6**	3.0**
Multiple problem	3.1	0.5	2.7	1.4
Problem load 2 (ref. low-problem youth)				
Low-mid-range	0.6	0.7	0.9	0.8
High-mid-range	0.8	2.3	1.1	1.8
Multiple problem	0.8	1.5	1.2	1.7

*p<0.1; **p<.05; ***p<.01

† Analysis restricted to youths aged fifteen and over *at admission*, due to disproportionate attrition on care career variable among those aged twelve to fourteen in relation to available follow-up times.

Among both male and female clients, a placement in whole or in part as a result of mental health problems is associated with a significantly increased risk for being admitted to hospital with a mental health diagnosis within one or two years of release from special approved homes. Among the males, a placement in whole or in part as a result of substance abuse problems also appears to be significantly correlated with an increased risk for a hospital admission with a mental health diagnosis subsequent to release, whereas the direction of this relationship is reversed among the female special approved home clients. Among the female clients, those admitted with substance abuse among their reasons for placement appear to be significantly *less likely* than those admitted without this reasons for placement to be admitted to hospital with a mental health diagnosis within a year of release from institutional care.

Returning to the male clients, those admitted in part or in whole as a result of involvements in crime appear less likely than those without crime registered among their reasons for placement to be admitted to hospital with mental health problems subsequent to release from a special approved home.

There is no correlation between the type of care-career undergone in special approved homes and the likelihood of registered mental health problems subsequent to the conclusions of this care-career. Among the males, those youths assigned to clusters with a spike on either the family/school or on one of the behavioural/mental health dimensions appear more likely to be admitted to hospital with a mental health diagnosis within a year of release from special approved homes, and when the follow-up period is extended to two years, males assigned to the mid-range clusters are also more likely than their counterparts in the low-problem clusters to be admitted to hospital with a diagnosis of this kind. Among the female special approved home clients, it is only those assigned to clusters with a spike on one of the behavioural/ mental health dimensions that are more likely than the low-problem clusters to be admitted to be admitted to hospital with a mental health diagnosis.

No significant correlations were found between the interviewer-rating based problem-load variable and the likelihood of being admitted to hospital with a mental health diagnosis subsequent to release from special approved home care.

5.5 Variety of registered problems subsequent to release

Having examined the individual follow-up dimensions in isolation, this final section of the presentation focuses on the number of different areas in which youths have been registered in association with (crime, substance abuse and mental health) problems subsequent to their release from special approved homes.

To this end, a variable was first constructed indicating the number of different dimensions on which a youth was registered in the follow-up registers during the two year period subsequent to their release from special approved home care. The distribution of cases on this variable is presented in Table 5.4. It should be remembered that the follow-up data employed are such that they will tend to *underestimate* the proportion of clients with actual problems in a given area, and thus the number of youths with *no* registered problems is likely to constitute an overestimation of the number of youths with no problems sufficient to *warrant* being recorded in one or more of the registers over the two-year period subsequent to their release from care, whereas the numbers of youths registered for problems on two or more dimensions constitute a *minimum* estimate of the number of youths actually experiencing problems across different areas during the period examined.

The measure is nonetheless intended to function as an indicator of the youths with the least and most extensive problems subsequent to their release from care respectively, and thus those youths who died within two years of release from care have been assigned to the category with two or more problems. In addition to the proportions of youths with problems in 0, 1 or 2-3 areas in the different categories of the independent variables examined, the table also presents a measure (Gamma) of the strength of the correlations between these variables and the measure of the variety of problems subsequent to release.

The table shows that among those admitted to special approved homes between 1997 and 1999, 24 percent of the male clients and 55 percent of the female clients (aged over fifteen at the time of their discharge from special approved home care) had not been registered in connection with any of the problem areas examined during the two years subsequent to their release from care. Male clients are thus more likely to have been registered in connection with problems in any area, and the table also shows that males are more likely to have been registered in connection with problems in two or more areas. This was expected given that the previous analyses have shown male clients to be significantly more likely to have been registered in association with both crime and substance abuse problems subsequent to their time in care.

With the exception of having mental health problems registered among one's reasons for placement in the KIA database, all of the other independent variables present significant correlations with the measure of the variety of registered problems subsequent to release from care. The strongest (moderate) correlations are found between the follow-up measure and having substance abuse registered among one's reasons for placement (for both male and female clients), and for both of the problem-load measures (among the females).

TABLE 5.4.

Proportions of youths recorded in the follow-up registers with problems on 0, 1 and 2 or more of the dimensions examined in the follow-up study. Youths admitted to special approved homes 1997-1999 and aged fifteen or over upon release, and released at least 24 months prior to the end of 2002. Percent.

	Proportion (%) with registered problems on 0, 1 and 2-3 dimensions within two years of release								
	No. of dimensions					No. of dimensions			
	0	1	2-3	Gamma		0	1	2-3	Gamma
Males					**Females**				
All males	24	40	37		All females	55	22	23	
Age group (admission)				.20**	**Age group (admission)**				.22**
12-14	31	44	25		12-14	67	11	22	
15-16	25	46	30		15-16	60	23	18	
17-20	22	34	45		17-20	48	23	29	
Reasons for placement					**Reasons for placement**				
Substance abuse				.35**	Substance abuse				.31**
No	28	48	24		No	63	23	14	
Yes	20	31	49		Yes	49	21	30	
Crime				.10**	Crime				.14**
No	31	32	37		No	57	23	21	
Yes	21	43	37		Yes	51	19	30	
Mental health				-.04ns	Mental health				.06ns
No	23	40	37		No	57	18	25	
Yes	27	36	37		Yes	48	35	17	
Problem load 1				.12**	**Problem load 1**				.22**
Low-problem	26	48	26		Low-problem	61	21	18	
Mid-range	22	43	35		Mid-range	67	15	18	
Spike family/school	36	37	28		Spike family/school	71	20	9	
Spike behaviour/mh	18	36	46		Spike behaviour/mh	45	30	25	
Multi-problem	24	32	44		Multi-problem	43	25	33	
Problem load 2				.18**	**Problem load 2**				.35**
Low-problem	27	45	28		Low-problem	73	18	10	
Low-mid-range	30	42	28		Low-mid-range	65	24	11	
High-mid-range	21	41	39		High-mid-range	49	19	32	
Multi-problem	20	33	47		Multi-problem	43	23	35	
Care career †				.19**	**Care career**				.14*
Short acute/assessment	27	45	29		Short acute/assessment	58	24	18	
Long acute/short treat.	19	35	46		Long acute/short treat.	53	19	28	
Mid-term treatment	19	32	49		Mid-term treatment	51	23	26	
Long-term treatment	22	37	42		Long-term treatment	45	26	29	

*p<.10; **p<.05

† Analysis restricted to youths aged fifteen and over *at admission*, due to disproportionate attrition on care career variable among those aged twelve to fourteen in relation to available follow-up times.

5.6 Summary

The findings from the bivariate analyses focused on the individual follow-up dimensions largely confirm the patterns described in the tables presented in the previous section of the report, which included all those admitted between 1997-2001 with a follow-up period of 1, 2 and 3 years respectively subsequent to their release from care. The likelihood of being registered for problems on each of the three dimensions examined subsequent to release from special approved home care increases significantly where an individual has problems in the relevant area registered among his or her "reasons for placement".

Male clients are significantly more likely than females to be registered for new non-drug/alcohol offences during the period subsequent to their release from care, whereas female clients are significantly more likely than males to be admitted to hospital with a mental health diagnosis.

The gender-based patterns found in relation to indicators of subsequent drug and alcohol problems were found in the previous chapter to vary depending on the register employed. Male clients were substantially more likely than females to be suspected of new drug/alcohol offences subsequent to the conclusion of their time in care, whereas female clients are somewhat more likely to be admitted to hospital with a drug or alcohol diagnosis than their male counterparts. When the two measures are combined, the data from the crime register tend to dominate, leading to a finding that male approved home clients are more likely than their female counterparts to be registered in connection with substance abuse problems subsequent to their release from care.

Age is a highly significant factor in relation to the likelihood of being registered for drug/alcohol problems subsequent to release from care, but appears to be less important in relation to the likelihood of subsequent non-drug/alcohol offending, at least when the analysis is limited to those youths who have reached the age of criminal responsibility by the time they leave care, and who are thus similarly likely to have their offences recorded in the Register of Suspected Offenders.

The only consistent correlations found between the care-career variable and the follow-up measures were noted in relation to the likelihood of being registered for drug/alcohol problems subsequent to release from care, with male clients who had received care interventions lying towards the more intrusive end of the care career spectrum being more likely than those with the shortest care careers to be registered for drug/alcohol problems subsequent to the conclusion of the period of institutionalisation.

Analyses presented in earlier sections of this report have shown that youths admitted in whole or in part as a result of substance abuse problems are more likely to be found among the multiple-problem youth (Tables 2.9 and 2.10), with the members of these groups in turn being more likely than low-problem youth to have longer careers in spe-

cial approved home care. It might thus be reasonable to assume that at least some of the apparent increase in the likelihood of being registered for drug/alcohol problems subsequent to release associated with the longer forms of care-career is in fact an effect of the correlations between these other factors and the nature of the care career undergone by youths in SiS institutions. In order to explore this question further, the male sample was divided into those admitted in whole or in part as a result of substance abuse problems, and those without substance abuse problems among their reasons for placement.

Within these two groups, it was found that among those placed in whole or in part as a result of substance abuse problems, the increased likelihood of being registered for drug/alcohol problems subsequent to release for those with longer care careers either disappeared or was greatly reduced (in relation to the odds-ratios presented in Table 5.2). By contrast, the strength of the correlation between longer care careers and the likelihood of being registered for drug/alcohol problems subsequent to release *increased* among those males who did not have substance abuse registered among their reasons for placement.

Further exploration showed that within this latter group (i.e. those males *without* substance abuse registered among their reasons for placement), youths in the longer care-career categories generally had higher mean levels of drug problems at admission than youths released within three months of admission, as reflected in both interviewer ratings and self-reported drug use (although the differences were not substantial enough to reach statistical significance). A similar tendency was also found in relation to levels of alcohol use prior to admission. Thus the apparent excess risk for being registered for drug/alcohol problems subsequent to release may also in part be due to pre-existing problems with drug/alcohol use among those in the longer care-career categories without substance abuse among their reasons for placement. Age effects are also likely to be an important factor here, since those youths with the longer care-careers are inevitably older on balance *at the time of their release* from special approved homes than their counterparts with the shortest care careers. In the section of the sample examined in the above analyses, for example, the males released from special approved homes subsequent to a stay involving over a year in treatment units were on average 1.5 years older than those released following only a short stay in an acute/assessment unit.

Within the subsample examined in this section of the report, the pattern of correlations between the two different problem-load variables and the various follow-up measures varied somewhat. In one instance (i.e. in relation to the non-drug/alcohol offending follow-up measure among the females) the interviewer-rating based measure was significantly correlated with the follow-up data whereas no correlation was found with the cluster-based measure. In the area of mental health, by contrast, the interviewer-rating based measure of problem-lead showed no correlation with the follow-up data, whereas significant differences in the likelihood of being registered in connection with hospital admissions with a mental health diagnosis were found across the problem-load groups specified on the basis of the cluster solution. Both measures showed themselves to be sig-

nificantly correlated with the likelihood of registered alcohol/drug problems subsequent to release from special approved home care.

Both measures were also significantly correlated with the measure of the variety of registered problems within two years of release, with these correlations in both cases being substantially stronger among the female clients. Of the reasons for placement, both crime and substance abuse were significantly correlated with the variety-based follow-up measure, although the correlation was substantially stronger for the substance abuse indicator among both males and females. Both age at admission and the length of care career were found to be weakly (but significantly) correlated with the likelihood of being registered in connection with problems in 2-3 areas subsequent to release, and given the previous findings, it seems likely that this may at least in part be due to a combination of age effects and the importance of substance abuse problems for the likelihood of being registered for problems in more than one area subsequent to release from special approved home care.

6. Summary and concluding remarks

6.1 Summary of central findings

This report has presented the central findings from the project: Follow up of youths admitted to SiS youth care facilities 1997-2001. The project's principal objectives have been threefold:

- To provide an updated picture of the range of problems and problem combinations presented by youths at admission to special approved homes, with a particular focus on the male clientele.
- To examine what relationship exists between the extent of problems at admission and the nature of the youths' care career in special approved homes.
- To examine the relationship between problems at admission, the nature of the youths' care career, and short-term outcomes subsequent to the youths' release from special approved homes.

Looking first to the question of the range of problems presented by youths at admission to special approved homes, an initial examination of the 'reasons for placement' recorded in the ADAD and KIA databases respectively showed that there were substantial differences in the problems underlying youths' admission to special approved homes both by gender and age. Male clients were much more likely than female clients to have been placed in whole or in part as a result of involvements in crime, whereas mental health problems were more often recorded among the reasons for placement for the female clients than they were among their male counterparts. As the age of the youths increases, substance abuse problems come to assume an increasingly dominant role among the youths' reasons for placement. This is particularly true among the female clients, where four out of five of those aged seventeen or over at the time of admission, were placed in whole or in part as a result of such problems. The proportion of the males in this age group placed in whole or in part as a result of substance abuse problems was not quite as large (65%), but in this age-group, substance abuse problems nonetheless assumed as important a role as involvements in crime as the underlying reasons for males' admissions to special approved homes.

A cluster analysis of the combinations of problems presented by youths at admission to special approved homes showed that the youths admitted to special approved homes present with a substantial variation in both the level and concentration of problems they are experiencing across a broad spectrum of behavioural and psychosocial fields. In all

age groups and across both sexes, the youth clientele included groups of youths with relatively high levels problems across several areas (referred to as multiple problem youth), groups with relatively low levels of problems across all of the areas examined (referred to as low-problem youth), and groups with high levels of problems in one or two specific areas, and average or low levels of problems across the remainder of the areas examined. Among both male and female clients, youths admitted in whole or in part as a result of substance abuse problems were substantially more likely than others to present at admission with a high concentration of problems across a range of areas.

The chapter focusing on the care careers of youths admitted to special approved home care first presented data showing that the work of special approved homes appears to a substantial extent to be focused on the provision of relatively short-term acute and assessment placements of less than three months duration. A total of over 40 percent of the sample had left the special approved home system within three months of admission, and almost sixty percent of the sample had been released following their period in special approved home care without having spent any time in a treatment unit at one of these institutions.

Multivariate analyses focusing on the relationship between the type of care career undergone and a number of variables, including indicators of the youths' problem load at admission, showed that problem load was significantly correlated with the likelihood of the youths having a more "intrusive" care career, as regards career length and the time spent in treatment units during the course of their stay in special approved home care. Thus while the majority of youths admitted to special approved homes do not appear to spend much, if any, time in treatment units, the youths who do so are on balance those with higher levels and concentrations of problems at admission, and thus those whose need for some form of treatment is likely to be greatest.

Perhaps the best predictor at admission of the likelihood that a given youth's care career in special approved homes will be a long one is neither the level of problems at admission, nor any of the reasons for placement, however, but rather the age of the youth. Even given controls for the interviewer-rated assistance needs of the youths, for example, those aged twelve to fourteen at admission were substantially more likely than their older counterparts to have a care career involving at least a year in treatment units.

The follow-up data collected from the Registers of Suspected and Convicted Offenders showed that of the special approved home clients that could be followed for a full three years subsequent to their release from institutional care, between 70 and 80 percent of males (depending on the age group) had been registered as *suspects* in connection with new offences within three years of release. The proportions who had been *convicted* of new offences within this period were almost as large, and one-third of the oldest group of male clients had been sentenced to a prison term for a new offence committed within three years of their release from special approved home care.

Among the female clients, the proportions registered as suspects in connection with new offences within three years of release from special approved homes varied between approximately 35 and just under 50 percent (depending on age). The proportions *convicted* of new offences within three years of release ranged between 28 percent and 43 percent. Very few of the female clients had been sentenced to a prison term within three years of their release from special approved home care however.

The data collected from the Hospital Discharge Register showed amongst other things that the proportions of clients admitted to hospital with a drugs/alcohol or mental health diagnosis subsequent to their release from institutional care were significantly smaller than the proportions suspected of new criminal offences, particularly among the males. The sex differences found in the Hospital Discharge Register were much smaller than those found in the justice system data, and went in the opposite direction, with a larger proportion of female than of male special approved home clients being admitted to inpatient care with a drugs/alcohol or mental health diagnosis within three years of their release from SiS institutions (between 15 and 32 percent of the female clients, depending on the age group, and between 9 and 26 percent of the males).

The bivariate analyses presented in Chapters 4 and 5 showed firstly that there was a clear correlation between the reasons for placement registered in the ADAD and KIA databases and the proportions of youths recorded in the different registers examined subsequent to their release from care on each of the dimensions examined (involvements in crime, substance abuse and mental health problems). The findings indicate further that experiences of substance abuse prior to admission to special approved home care appear to constitute the single factor most likely to involve a risk for continued problems in more than one of the areas examined subsequent to release from institutional care.

6.2 Concluding remarks

6.2.1 A near impossible task

The task of Swedish special approved homes, which involves providing care and assistance to some of the most vulnerable young people in society, is not an easy one. The range of problems and combinations of problems presented by youths at admission to Swedish special approved homes is quite simply vast. This in itself would make providing differentiated programs of care and treatment that are suited to the individual needs of all special approved home clients an enormous task. If we also weigh in the fact that even among youths who enter institutions with fairly similar problems, there is a further range of individual-level factors that affect the likelihood that youths will respond positively to different types of treatment measures, so-called "responsivity factors" (e.g. Andreassen, 2003; Hoge & Robertsson, 2008), the task of the special approved home system appears even more daunting.

For any reasonable expectation of large scale success, the system would probably need more or less limitless resources. In an ideal world, of course, the required resources would be made available. Unfortunately, special approved homes do not have the luxury of conducting their work in an ideal world. Instead, as is the case with all public sector activity, the level of available resources is limited and is ultimately determined by the way in which competing policy considerations are dealt with, and prioritisations made, at the political level. The concrete task of special approved homes thus becomes that of endeavouring to provide the best care possible given the limited resources made available to them.

6.2.2 Prioritising the use of available resources

In order to achieve their goals to the greatest extent possible, organisations working with scarce resources must themselves make prioritisations and decide where these resources can best be put to use. In the context of the special approved home system, we might expect this to mean that those with more extensive problems at admission are likely to be those whose need is greatest, and thus those on whom it would be reasonable to expend the largest proportion of resources. And the findings presented in this report suggest that this is what in fact happens. Youths are assessed at admission, amongst other things using the ADAD instrument, and on balance, those youths that the ADAD data show to have the highest levels of problems at admission appear to be those who are assigned the most extensive levels of resources (as measured in terms of treatment provision and length of stay).

At the same time, however, the findings also suggest that there are other factors, besides the nature of the individuals' problems, that may play a significant role in determining the length of time clients spend in special approved homes. Age, for example, appears to be a very important factor in determining whether or not youths will have a long stay in special approved home care, even given controls for the extent of the problems the youths are assessed to have at admission. And this raises the question of whether or not young clients with extensive problems do in fact benefit more from a long stay in institutional care than their older counterparts.

6.2.3 Short-term continuity – but no available information as to "why"

When it comes to the question of "what happens next", i.e. of what happens to the youths once they leave special approved home care, the data suggest a continuity between the level (and type) of problems exhibited prior to admission and the likelihood of continued problems subsequent to release. Those with the highest levels of problems at admission are those that are most likely to turn up in the outcome registers subsequent to their release from care. The data do not allow us to draw any conclusions about possible "treatment effects" – we cannot know, for example, whether the youths in the survey would have had higher (or lower) levels of subsequent problems if they had not spent time in special approved homes. All we can really say is that the more intensive measures experienced by youths with the highest levels of problems at admission do not appear to have

been sufficient to reduce their level of risk for continued problems to that of the special approved home clients with lower levels of problems at admission (some of whom have themselves of course also received treatment measures during their stay in special approved homes). And even having said this, we have no information on the types of environments to which these youths returned following their release from special approved home care, and of the possible effects of these post-care environments on the youths' varying levels of risk for continued problems.

6.2.4 Institutionalisation, treatment effects and future life-chances

There has long been a debate in the research literature, not least with regard to youths whose problems include substantial levels of involvement in crime, as to the benefits or otherwise of providing treatment in an institutional environment. Unfortunately, this research is anything but unambiguous. Some have argued, for example, that institutional treatment in itself involves risks that can better be avoided by providing treatment in non-institutional environments (e.g. Smith, 2005; Greenwood, 2005). The negative aspects of institutional treatment discussed in the literature include the fact that institutionalisation disrupts young people's links to protective factors, further disturbing family relations and relations with pro-social peers, as well interrupting their ongoing schooling and further weakening their attachments to school (e.g. Lowenkamp & Latessa, 2004). In addition, research has highlighted the risk for "deviancy training" when high-risk youth are treated in groups, noting that such youths have a tendency to reinforce one another's negative behaviours over time (e.g. Dishion et al., 1999; Ferrer-Wreder et al., 2005). Others, by contrast, have argued that the risk for deviancy training may have been exaggerated (e.g. Guerra et al., 2008), and the most recent systematic reviews of treatment research have argued that the issue of whether treatment is provided in an institutional or non-institutional environment may be less important in relation to potential positive treatment effects than whether treatment staff have the correct training and competence, whether they actually follow the directions of treatment programmes and whether they succeed in keeping treatment participants in the programmes to which they are assigned (Söderholm Carpelan et al., 2008; Lipsey, 2009).

The evaluative research on treatment programmes intended to reduce the risk for continued antisocial behaviour also indicates that it is not only institutionally based treatment programmes that have had difficulties showing consistent, sizeable positive effects. Most of the systematic research reviews covering a wide range of such measures suggest that even outside institutions it is realistic to expect at best small to moderate average effects on continued involvement in antisocial behaviour over the short term (e.g. Söderholm Carpelan et al., 2008; cf. Brå, 2009).

Andreassen (2003), in his extensive review of research on the institutional treatment of young people, argues that institutional treatment can reduce the risk for continued behavioural problems but that outcome studies show large variations in the effects of institutional treatment programmes and that even where these are positive, the literature

indicates that mean treatment effects are generally quite small. He notes further that it is relevant to ask whether the effects produced can justify the high costs of institutionalisation and the use of compulsion – since subjecting young people to compulsory institutional placements almost inevitably involves a quite serious violation of their personal integrity.

Longitudinal research that has followed high-risk youth from childhood through early adult life and beyond often emphasises the significance of cumulative disadvantage and notes that the use of institutionalisation, for example as a response to crime, may serve to intensify the effects of pre-existing problems in relation to the likelihood of marginalisation and continued involvement in crime into adulthood (cf. Nilsson & Estrada, 2009; Laub & Sampson, 2003). At the same time, however, this research also highlights the way in which the adult lives of even the most high-risk individuals contain a wide range of opportunities that, if an individual is able to take them, can and do serve as a means of moving away from the hardships and uncertainties of a life lived on the margins of society and into a more fulfilling and less stressful and destructive lifestyle. In short, this research indicates that life-chances can become dramatically improved at more or less any age, and by factors occurring across a broad range of areas of people's lives.

Thus in the longer term, what happens to youths during their time in institutions represents only one part of a complex of risk and protective factors that impact upon the affected youths' likelihood of experiencing continued, substantial problems into adult life, and their chances of moving away from a life on the margins of society sooner rather than later.

6.2.5 The "longer-term" challenge for research

On the one hand, then, research focusing on the evaluation of treatment measures shows that even the most effective treatments for serious problem behaviour among young people tend on average to at best produce small to moderate effects on the risk for continued problem behaviour over the short term. On the other hand, longitudinal research shows that other, apparently non-treatment related, factors can have a significant beneficial impact on future life-chances over the *longer* term.

Given this background, it may be time for the research community to focus more time and resources on examining and unravelling the question of how much short-term outcome measures of e.g. continued antisocial behaviour really matter in and of themselves, and to place a greater emphasis on examining the complex issue of the role played by such short-term post-care outcomes in relation to the longer-term well-being of youths who experience major problems during childhood and adolescence.

To provide a fuller and more realistic picture of the role of institutional stays in youth for the subsequent lives of these young people, longer-term research is required which, unlike the current report, does not restrict its focus to problems prior to admission, the time spent in institutions, and a small number of short-term outcome measures, but which

instead also collects data on a range of other aspects of the youths' lives subsequent to their release from care. Further, these data would ideally not only focus on quantifiable "problems", but would also include qualitative information that might enable us to develop a better understanding of the type of mechanisms that lead subsequent life-events to result in improved life-chances, and also of the potential positive and negative effects of stays in institutional care on these intermediary mechanisms.

The conduct of such research is neither cheap nor easy, and it raises important ethical issues which of course need to be addressed. But it is important that research of this kind be attempted. Short-term studies of the effects of treatment measures are clearly useful for providing information on which measures appear more or less promising in terms of their effects on youths' exposure to, or involvement in, specific, quantifiable problems and behaviours. But we also need to know a good deal more than we do today about longer-term effects, and particularly about the factors and mechanisms that moderate the relationship between the short-term effects of institutionalisation and longer term outcomes across the adult life-course.

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Appendix

TABLE A1.
Cases included in the cluster analysis. Youths admitted to special approved homes 1997-2001. By sex and age-group. Percent.

	Proportion of cases…			
	n[1]	1) …with values on all problem indexes	2) …included in initial hierarchical clustering	3) …included in final k-means clustering
Males Age-group				
12-14	345	79	90	92
15-16	727	81	89	92
17-20	696	77	88	91
Total sample	1768	79	89	91
Females Age-group	n[1]			
12-14	211	76	89	91
15-16	323	82	87	93
17-20	240	70	80	87
Total sample	774	77	85	91

Note [1]: ns based on youths for whom the ADAD interview was conducted within two months of admission date registered in KIA database.

TABLE A2.
Problem profiles among females aged twelve to fourteen. Cluster means and standard deviations. Unstandardised data. Twelve cluster solution.

	Problem area													
	crime		alcohol use		drug use		mental health		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1[a] (16)	7.3	1.8	2.6	1.1	6.8	1.3	5.1	1.9	11.9	4.3	7.9	2.3	8.1	1.7
2[c] (8)	7.1	1.8	2.6	.7	1.6	1.4	3.1	1.9	10.3	4.7	5.3	3.7	5.3	3.7
3[a] (14)	6.9	1.8	2.1	1.1	1.1	1.5	7.2	1.3	8.8	2.8	8.2	2.1	6.3	2.1
4[a] (10)	4,3	1.8	2.2	.8	13.1	4.2	5.1	3.2	8.7	5.7	7.1	1.7	6.3	2.5
5[f,i] (11)	3.2	1.4	.6	.8	.2	.4	5.5	1.3	9.6	3.1	7.2	2.5	4.5	1.4
6[i] (19)	2.8	1.6	1.9	.7	.2	.7	2.9	1.6	6.8	3.7	3.8	1.6	7.5	1.6
7[b] (10)	2.4	1.3	2.4	1.0	3.6	1.3	6.9	1.7	11.6	2.9	9.4	1.6	8.4	1.6
8 (20)	1.9	1.4	2.1	.8	.5	.9	6.1	1.4	4.5	2.3	9.7	2.6	7.4	1.8
9 (25)	1.8	1.4	1.0	.9	.1	.4	2.4	1.4	2.2	2.1	9.2	1.6	7.2	1.4
10[e] (20)	1.4	1.1	.8	.8	.2	.5	1.0	1.1	2.0	1.8	3.4	1.7	4.6	1.5
11[d] (17)	.7	1.3	.2	.4	.8	1.6	4.6	1.9	2.3	1.9	3.4	2.0	6.9	1.2
12[b] (22)	.6	.7	.5	.7	.3	.8	2.7	1.8	1.8	1.5	9.2	1.3	2.8	1.5
Unclassified*: (19)	3.5	3.4	2.0	2.2	2.0	2.4	4.5	2.9	5.6	4.8	5.8	3.6	6.1	2.0
Total Sample (211)	**2.9**	**2.7**	**1.5**	**1.3**	**1.8**	**3.5**	**4.1**	**2.5**	**5.7**	**4.7**	**7.0**	**3.2**	**6.2**	**2.3**

[a] Multiple-problem clusters; [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [g] Spike early debut; [h] Spike school problems; [i] Spike delinquent peers.
* Unclassified cases comprise those with missing data on more than one dimension

TABLE A3.
Problem profiles among institutionalised females aged 15-16. Cluster means and standard deviations. Unstandardised data. Fifteen cluster solution.

	Problem area															
	crime		alcohol use		drug use		mental health		early debut		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1[a] (15)	7.7	1.6	3.1	1.6	14.7	7.7	5.1	1.9	3.6	1.8	13.3	4.4	6.2	1.9	7.7	1.3
2[a] (9)	7.0	1.4	2.2	1.6	.5	.8	7.4	2.3	1.1	1.3	2.4	1.9	6.2	2.5	8.2	2.5
3[a] (20)	6.6	2.1	2.2	1.0	3.4	3.0	6.0	2.4	.75	.79	10.9	3.2	6.3	2.3	8.3	1.6
4[c] (9)	5.9	1.3	1.1	.8	1.8	2.1	3.7	2.1	1.1	1.2	4.8	2.8	2.5	1.6	3.8	2.3
5[a] (13)	4.0	1.3	1.8	.8	3.2	3.8	3.5	2.1	4.2	1.2	3.8	2.0	8.7	2.0	7.0	2.8
6[a] (12)	3.3	1.3	2.3	1.1	8.4	4.5	7.3	1.7	1.8	1.1	11.3	5.0	9.5	1.9	9.7	1.6
7[f,i] (18)	3.2	1.9	1.2	1.1	17.2	2.8	3.3	2.1	1.1	.9	10.1	3.5	5.2	2.8	7.0	2.4
8 (21)	3.1	1.8	1.4	1.0	1.4	2.4	2.2	1.0	.2	.4	6.8	3.1	8.9	1.6	7.0	1.8
9[i,j] (15)	1.5	1.1	2.9	1.1	2.2	2.0	4.4	2.4	1.1	1.1	10.4	2.7	4.9	1.2	7.4	2.1
10[d] (28)	1.1	.9	.7	.7	.4	.8	5.6	1.6	.3	.6	2.1	1.4	3.9	1.9	5.1	1.9
11[e] (34)	1.1	1.2	1.7	1.0	.6	1.4	6.8	1.4	.4	.8	2.7	1.8	8.4	2.2	7.4	1.9
12[b] (23)	.9	.9	.8	.8	.3	.8	1.2	1.2	.2	.4	1.9	2.1	2.9	1.8	2.1	1.4
13[b] (38)	.8	1.1	.6	.7	.5	1.4	1.8	1.2	.6	.8	2.4	2.2	2.9	1.5	7.4	1.8
14[d] (27)	.8	1.1	.9	.7	1.4	2.8	4.2	1.4	.3	.5	2.8	2.0	9.8	1.5	4.3	1.8
15 (19)	.5	1.0	2.0	.7	.2	.5	1.5	1.1	.2	4	1.8	1.6	6.7	1.6	6.3	1.6
Unclassified*: (22)	1.9	1.8	1.4	1.2	3.6	5.2	5.8	2.8	1.1	1.7	5.1	5.1	6.1	4.2	6.5	2.6
Total Sample (323)	**2.5**	**2.6**	**1.5**	**1.2**	**3.1**	**5.6**	**4.2**	**2.6**	**.9**	**1.3**	**5.1**	**4.6**	**6.1**	**3.1**	**6.5**	**2.6**

[a] Multiple-problem clusters; [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [g] Spike early debut; [h] Spike school problems; [i] Spike delinquent peers; [j] Spike alcohol use.
* Unclassified cases comprise those with missing data on more than one dimension.

TABLE A4.
Problem profiles among institutionalised females aged 17-20. Cluster means and standard deviations. Unstandardised data. Fifteen cluster solution.

	Problem area															
	crime		alcohol use		drug use		mental health		early debut		peers		family		school	
Cluster (n)	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1[a] (11)	6.5	1.6	3.6	1.9	21.5	5.0	6.2	2.2	2.6	1.8	17.4	2.0	7.8	3.1	6.0	2.5
2[a] (11)	6.4	1.0	1.4	1.2	6.1	4.1	6.4	1.6	2.5	1.3	15.9	2.8	8.7	2.3	8.0	2.2
3[a] (20)	3.6	2.1	3.2	1.0	7.3	3.9	4.3	1.7	.7	.7	11.6	3.2	5.4	1.8	6.3	1.7
4[c] (11)	3.4	1.4	2.1	1.2	22.8	8.6	7.5	1.2	2.3	1.2	10.4	2.3	9.3	2.6	9.0	1.7
5[a] (13)	3.2	2.7	1.1	1.0	16.8	4.9	3.0	2.0	.8	.7	15.3	3.0	1.8	1.9	5.2	2.3
6[a] (7)	2.7	2.0	.3	.5	1.9	1.9	1.9	1.2	.1	.4	9.2	2.7	6.5	2.2	5.7	1.4
7[f,i] (8)	2.3	1.8	.7	.8	12.9	2.9	7.1	1.1	.5	.5	4.0	2.1	9.9	1.7	7.5	2.0
8 (16)	2.1	1.4	.7	.7	10.1	2.6	3.5	.9	1.0	.6	9.2	2.8	3.6	1.0	8.1	2.0
9[i,j] (13)	1.9	1.8	1.9	1.1	8.2	5.5	7.5	1.1	.8	1.2	6.6	3.1	6.3	2.3	2.8	1.2
10[d] (13)	1.8	1.3	1.3	1.3	1.2	1.7	5.4	1.9	.6	.7	3.4	1.7	8.6	1.4	9.2	1.6
11[e] (14)	1.6	1.3	.8	.9	7.0	4.2	6.3	1.9	.4	.6	14.5	2.5	8.8	1.6	7.5	1.5
12[b] (15)	.9	1.1	2.0	1.4	2.7	2.7	8.2	1.6	.9	1.1	3.3	1.9	4.3	2.5	7.3	1.7
13[b] (14)	.9	1.3	.8	.9	5.2	4.9	2.8	2.3	.2	.4	5.6	3.6	2.7	1.7	1.6	1.3
14[d] (24)	.6	.9	1.2	.9	1.3	2.2	1.9	1.5	.3	.6	2.5	2.5	3.7	1.5	5.8	2.2
15 (18)	.2	.4	1.6	1.0	2.8	3.9	2.9	1.6	.3	.6	3.5	2.5	9.4	1.7	4.0	1.8
Unclassified*: (32)	2.1	2.1	1.5	1.7	9.1	9.5	4.5	2.5	1.2	1.5	8.6	5.4	5.1	2.7	6.1	3.2
Total Sample (240)	**2.3**	**2.3**	**1.6**	**1.4**	**7.9**	**7.8**	**4.7**	**2.6**	**.9**	**1.2**	**8.4**	**5.6**	**6.1**	**3.2**	**6.1**	**2.8**

[a] Multiple-problem clusters; [b] Low-problem clusters; [c] Spike crime, [d] Spike family problems; [e] Spike mental health problems; [f] Spike drug use; [g] Spike early debut; [h] Spike school problems; [i] Spike delinquent peers; [j] Spike alcohol use.
* Unclassified cases comprise those with missing data on more than one dimension

FIGURE A1.
Cluster mean profiles among males aged 12-14. Broken line represents mean profile for sub-sample as a whole. Range standardised data. Twelve cluster solution.

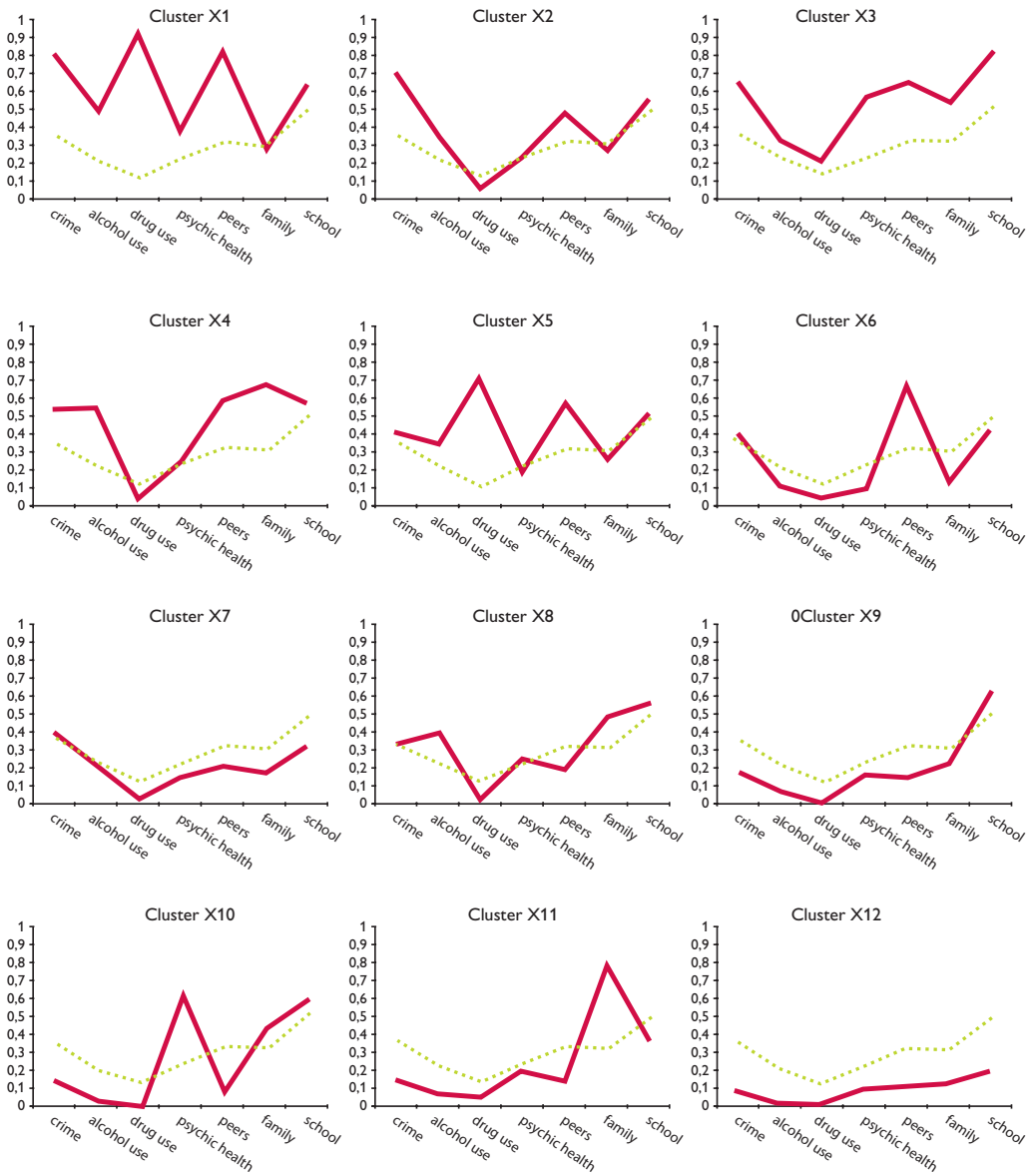

FIGURE A1.

Cluster mean profiles among males aged 17-20. Broken line represents mean profile for sub-sample as a whole. Range standardised data. Fifteen cluster solution.

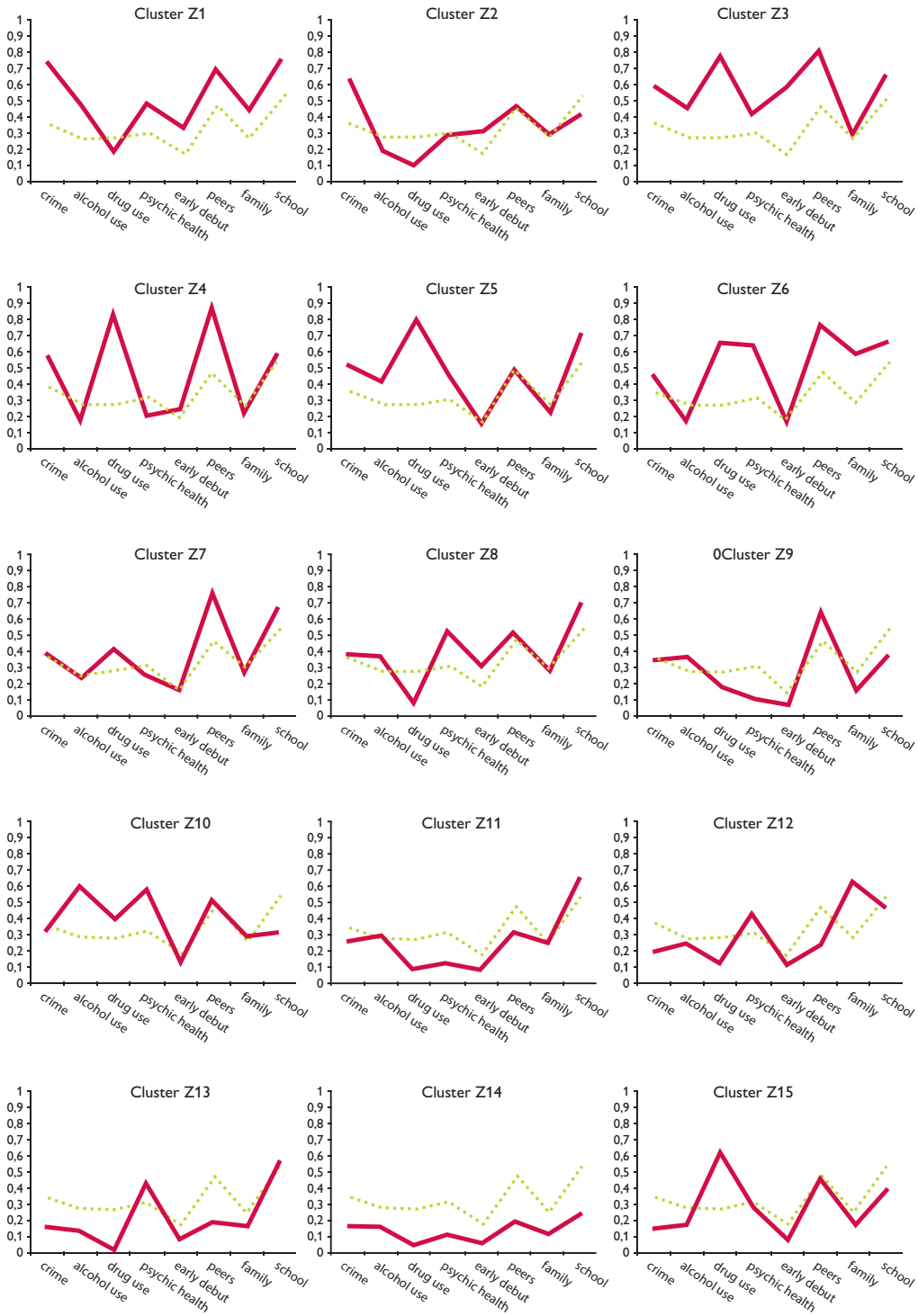

TABLE A5.

Logistic regression model examining factors associated with the likelihood of having a short-term acute/assessment placement (of less than 3 months). NB: Problem profile variable coded with low-problem clusters as the reference category.

Short stay		Odds ratios
Independent variables		
Background variables		
Sex	Male (R)	1.0
	Female	0.9
Age group	12-14	0.9
	15-16	1.2
	17-20 (R)	1.0
Reasons for placement	Crime (ref: no)	0.8**
	Substance abuse (ref: no)	0.9
	Mental health (ref: no)	1.1
Problem profile variables		
Problem profile	Low-problem (R)	1.0
	Mid-range	0.8**
	Spike family/school	0.8*
	Spike-behaviour/mental health	0.6***
	Multi-problem	0.6***
	-2 log likelihood	2931.3
	Model chi2	40.4***

*p<0.1; **p<.05; ***p<.01

Författarpresentation

David Shannon är fil.dr i kriminologi och verksam vid Brottsförebyggande rådet, Brå. Under sin tid på Brå har han arbetat med forskningsrapporter om vuxnas sexuella kontakter med barn via internet, diskriminering i rättsprocessen, grövre våld i skolan, våldtäkter mot barn samt barnmisshandel inom familjen.

Tillsammans med fil.dr Jonas Ring har David Shannon författat en kunskapsöversikt om orsaker till brott bland ungdomar och åtgärder som motverkar en kriminell utveckling.

Vid sidan om sina forskningsuppdrag har han arbetat som studierektor för både grund- och forskarutbildningen vid Kriminologiska institutionen, Stockholms universitet. David Shannon har även vikarierat som tillförordnad enhetschef för FoU-enheten vid Brå.

Rapporten presenterar de viktigaste resultaten från forskningsprojektet ”Uppföljning av ungdomar inskrivna på särskilda ungdomshem åren 1997–2001”. Studien omfattar drygt 2 500 ungdomar och undersöker sambanden mellan problem vid intagning, vårdkarriärer inom SiS och eventuella återfall efter utskrivning.

Enligt studien spelar ålder och kön stor roll när det gäller grund för placering. Pojkarna i uppföljningen placerades i större omfattning än flickorna på grund av brottslighet, medan psykisk ohälsa var vanligare som placeringsorsak för flickor. Ju äldre ungdomarna var när de kom till SiS, ju mer dominerade missbruk som orsak till placeringen. Studien visar att det finns en tydlig koppling mellan anledningen till att ungdomarna placerats hos SiS och de ungas tillvaro efter utskrivning. Erfarenhet av missbruk verkar vara den enskilt mest betydelsefulla faktorn när det gäller risk för fortsatta problem.

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