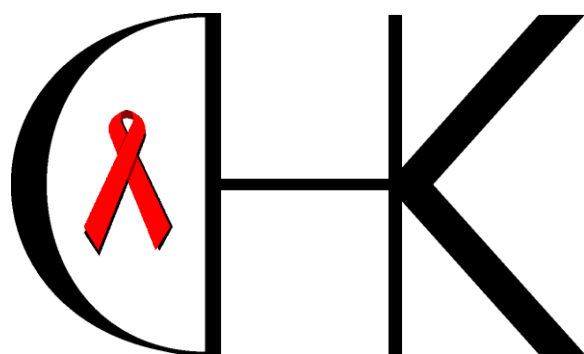


# DET DANSKE HIV KOHORTE STUDIUM



10. udgave, 2013



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## Forord

Nærværende rapport er en status over Det Danske HIV Kohorte Studiums (DHK) arbejde frem til sommeren 2013.

Rapporten fokuser på overordnede analyser. Af hensyn til ønsker fra industrien er der dog til slut i den udvidede rapport medtaget mere specifikke beregninger over de enkelte præparaters anvendelsesmønstre i Danmark. Visse præparater og forhold, som stort set ikke har ændret sig det sidste år, er ikke medtaget, og der henvises i stedet til rapporterne for 2004 – 2012.

Analyserne er i år opdateret i en lidt anden form end tidligere - bl.a. er der flere analyser, der anvender viral load < 50 og < 200 kopier som "undetectable".

Data er baseret på de tilgængelige opdateringer i august 2013.

Epidemiologiske opgørelser er ikke sandheden, men et spejlbillede af virkeligheden. Resultaterne i nærværende rapport er derfor heller ikke bedre end de indgåede data. Da data i DHK endnu ikke er fuldt opdateret for 2012, vil tal for 2012 have tendens til at være underestimerede.

Jeg vil endnu engang benytte lejligheden til at takke DHKs styregruppe, de trofast arbejdende forskningssygeplejersker og de enkelte centre og deres afdelingsledelser for et godt samarbejde.

Den Danske HIV Kohorte er helt afhængig af ekstern støtte. I den forbindelse vil jeg specielt takke Rigshospitalet, Københavns Universitet, AIDS Fondet, Odense Universitets Hospital, Klinisk Institut – Syddansk Universitet, Augustinus Fonden og NOVO Nordisk Fonden. Følgende firmaer har gjort aktuelle årsrapport mulig: Gilead, GlaxoSmithKline, Jansen, Bristol Myers Squibb og Boeringer Ingelheim.

Tallene i rapporten er ikke kvalitetssikrede i samme grad som i de videnskabelige publikationer, som udgår fra projektet. Der tages derfor forbehold for eventuelle regnefejl i rapporten.

Rapporten foreligger i to udgaver. En koncentreret og en udvidet form, som inkluderer data om de enkelte antivirale præparater. Der er i visse tabeller anført et tal med nummer (f. eks. B7), som henvisninger til tabeller i Det Danske HIV Kohorte Studiums database og er kun til internt brug for personalet ved kohorten.

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## Demografi

|                                                                                            |         |
|--------------------------------------------------------------------------------------------|---------|
| Antal patienter i Den Danske HIV Kohorte (G2)                                              | 6.434   |
| Heraf indgår følgende i:                                                                   |         |
| Den Grønlandske Kohorte (G1a)                                                              | 173     |
| Den Danske Børne HIV Kohorte (positiv HIV test før 16 år) (B4)                             | 113     |
| Antal patienter, som er startet på HAART (G10)                                             | 5.228   |
| Antal virologiske målinger i DHK (B2)                                                      | 170.507 |
| Antal CD4 målinger i DHK (B3)                                                              | 183.240 |
| Antal initieringer af antiretroviral behandling og behandlingsskift registreret i DHK (B1) | 25.5828 |

### Tidspunkt for første HIV positiv (ikke grønlandske patienter)

| Årstal               | Antal patienter (B5) | Heraf sat i behandling indenfor et år (G12) |
|----------------------|----------------------|---------------------------------------------|
| 1994 eller tidligere | 2.092                | 0 (0%)                                      |
| 1995                 | 273                  | 19 (7,0%)                                   |
| 1996                 | 241                  | 97 (40,2%)                                  |
| 1997                 | 251                  | 129 (51,4%)                                 |
| 1998                 | 213                  | 115 (54,0%)                                 |
| 1999                 | 254                  | 143 (56,3%)                                 |
| 2000                 | 236                  | 138 (58,5%)                                 |
| 2001                 | 288                  | 178 (61,8%)                                 |
| 2002                 | 244                  | 137 (56,1%)                                 |
| 2003                 | 215                  | 122 (56,7%)                                 |
| 2004                 | 273                  | 132 (48,4%)                                 |
| 2005                 | 224                  | 111 (49,6%)                                 |
| 2006                 | 238                  | 119 (50,0%)                                 |
| 2007                 | 280                  | 152 (54,3%)                                 |
| 2008                 | 265                  | 143 (54,0%)                                 |
| 2009                 | 216                  | 133 (61,6%)                                 |
| 2010                 | 223                  | 158 (70,9%)                                 |
| 2011                 | 216                  | 165 (76,4%)                                 |
| 2012                 | 132                  | 80 (60,6%)                                  |

**Dødsfald blandt HIV positive fordelt på år (G7)**

| Årstal                 | Antal patienter |
|------------------------|-----------------|
| 1995                   | 255             |
| 1996                   | 166             |
| 1997                   | 91              |
| 1998                   | 61              |
| 1999                   | 84              |
| 2000                   | 52              |
| 2001                   | 72              |
| 2002                   | 61              |
| 2003                   | 75              |
| 2004                   | 81              |
| 2005                   | 68              |
| 2006                   | 55              |
| 2007                   | 66              |
| 2008                   | 41              |
| 2009                   | 52              |
| 2010                   | 35              |
| 2011                   | 34              |
| 2012                   | 20              |
| I alt (før 31/12-2012) | 1369            |

**Samlede antal HIV positive patienter set ved centrene, og som ikke er udvandret eller døde (G103).**

| Årstal | Antal patienter |
|--------|-----------------|
| 1995   | 2.270           |
| 1996   | 2.249           |
| 1997   | 2.324           |
| 1998   | 2.436           |
| 1999   | 2.608           |
| 2000   | 2.744           |
| 2001   | 2.949           |
| 2002   | 3.091           |
| 2003   | 3.224           |
| 2004   | 3.391           |
| 2005   | 3.499           |
| 2006   | 3.644           |
| 2007   | 3.859           |
| 2008   | 4.069           |
| 2009   | 4.229           |
| 2010   | 4.389           |
| 2011   | 4.547           |
| 2012   | 4.627           |

**Samlede antal HIV positive patienter set ved centrene (G1)**

| Centre                   | Totale antal (G1) | Procentvis fordeling | Antal patienter set efter 1. januar 2003 (G3) | Procentvis fordeling |
|--------------------------|-------------------|----------------------|-----------------------------------------------|----------------------|
| Andet                    | 135               | 2,1                  | 33                                            | 0,7                  |
| Herning                  | 124               | 1,9                  | 105                                           | 2,3                  |
| Hillerød                 | 109               | 1,7                  | 89                                            | 2,0                  |
| Herlev                   | 13                | 0,2                  | 10                                            | 0,2                  |
| Hvidovre                 | 2.042             | 31,7                 | 1.311                                         | 29,2                 |
| Hvidovre børneafdelingen | 45                | 0,7                  | 24                                            | 0,5                  |
| Kolding                  | 36                | 0,6                  | 16                                            | 0,4                  |
| Odense                   | 646               | 10,0                 | 488                                           | 10,9                 |
| Rigshospitalet           | 2.201             | 34,2                 | 1.566                                         | 34,9                 |
| Roskilde                 | 75                | 1,2                  | 75                                            | 1,7                  |
| Skejby voksenafdelingen  | 746               | 11,6                 | 560                                           | 12,5                 |
| Aalborg                  | 262               | 4,1                  | 209                                           | 4,7                  |

**Første HIV positiv fordelt på køn og år for HIV positiv (B6)**

| År for HIV positiv   | Mænd  | %  | Kvinder | %  |
|----------------------|-------|----|---------|----|
| 1994 eller tidligere | 1.678 | 80 | 414     | 20 |
| 1995                 | 202   | 74 | 71      | 26 |
| 1996                 | 178   | 74 | 63      | 26 |
| 1997                 | 187   | 75 | 64      | 25 |
| 1998                 | 154   | 72 | 59      | 28 |
| 1999                 | 162   | 64 | 92      | 36 |
| 2000                 | 156   | 66 | 80      | 34 |
| 2001                 | 190   | 66 | 98      | 34 |
| 2002                 | 160   | 66 | 84      | 34 |
| 2003                 | 161   | 75 | 54      | 25 |
| 2004                 | 203   | 74 | 70      | 26 |
| 2005                 | 172   | 77 | 52      | 23 |
| 2006                 | 170   | 72 | 66      | 28 |
| 2007                 | 214   | 76 | 66      | 24 |
| 2008                 | 192   | 72 | 73      | 28 |
| 2009                 | 160   | 75 | 54      | 25 |
| 2010                 | 172   | 78 | 49      | 22 |
| 2011                 | 162   | 76 | 52      | 24 |
| 2012                 | 100   | 78 | 29      | 22 |

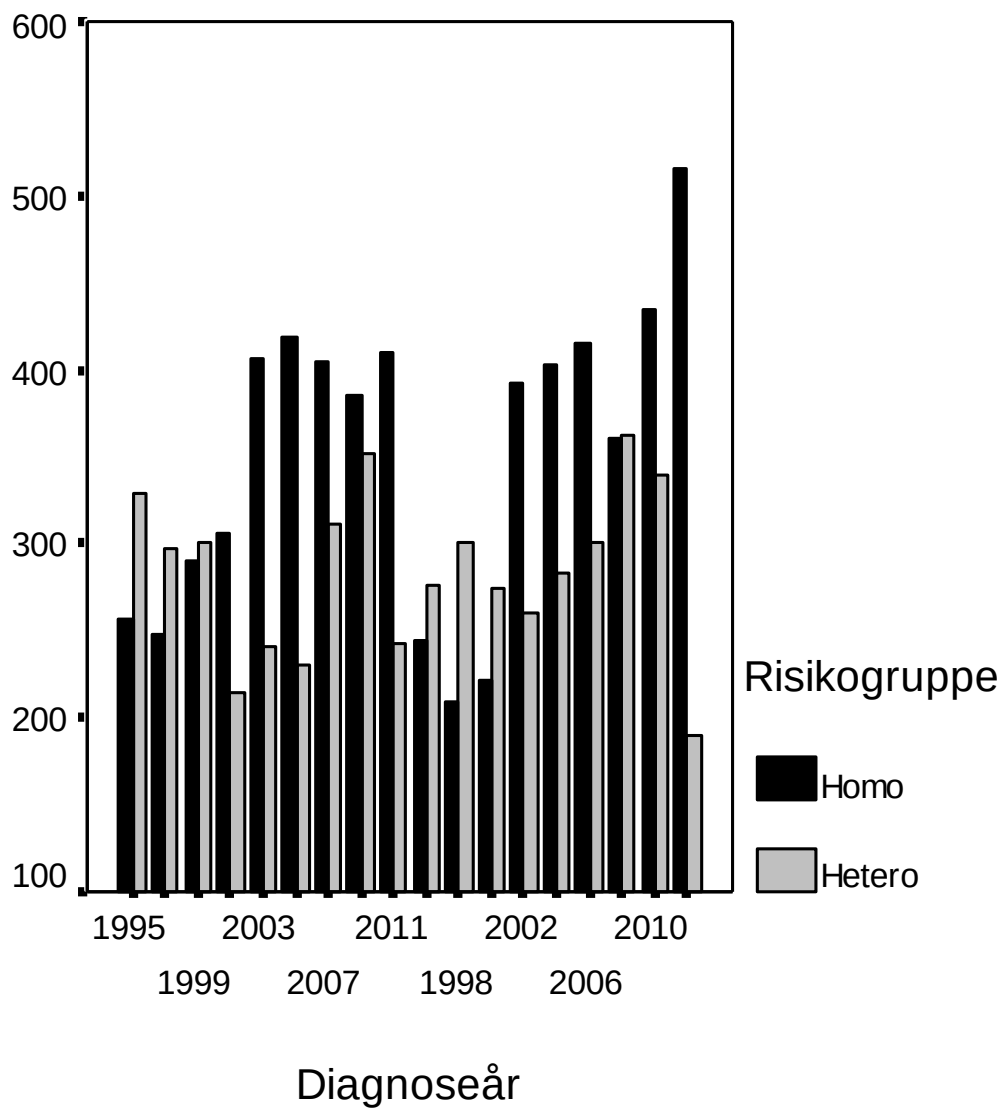
**Smittemåde fordelt på år for HIV positiv (B7)**

|          | Homoseksuel | Heteroseksuel | I.V<br>stofmisbrug | Hæmofili og<br>blodtransfusion | Perinatalt | Andet/ukendt |
|----------|-------------|---------------|--------------------|--------------------------------|------------|--------------|
| Før 1995 | 1097 (53%)  | 507 (24%)     | 325 (16%)          | 60 (3%)                        | 29 (1%)    | 61 (3%)      |
| 1995     | 111 (41%)   | 114 (42%)     | 23 (8%)            | 3 (1%)                         | 3 (1%)     | 18 (7%)      |
| 1996     | 94 (39%)    | 101 (42%)     | 21 (9%)            | 4 (2%)                         | 4 (2%)     | 16 (7%)      |
| 1997     | 92 (37%)    | 114 (46%)     | 19 (8%)            | 2 (1%)                         | 5 (2%)     | 18 (7%)      |
| 1998     | 81 (38%)    | 94 (44%)      | 19 (9%)            | 2 (1%)                         | 6 (3%)     | 11 (5%)      |
| 1999     | 82 (33%)    | 129 (51%)     | 18 (7%)            | 3 (1%)                         | 1 (0%)     | 18 (7%)      |
| 2000     | 72 (31%)    | 128 (54%)     | 16 (7%)            | 4 (2%)                         | 5 (2%)     | 10 (4%)      |
| 2001     | 90 (31%)    | 147 (51%)     | 27 (9%)            | 0 (0%)                         | 9 (3%)     | 14 (5%)      |
| 2002     | 81 (33%)    | 123 (50%)     | 22 (9%)            | 3 (1%)                         | 5 (2%)     | 10 (4%)      |
| 2003     | 84 (39%)    | 87 (41%)      | 23 (11%)           | 0 (0%)                         | 3 (1%)     | 16 (8%)      |
| 2004     | 130 (48%)   | 112 (41%)     | 13 (5%)            | 2 (1%)                         | 4 (1%)     | 10 (4%)      |
| 2005     | 111 (50%)   | 90 (40%)      | 12 (5%)            | 1 (0%)                         | 3 (1%)     | 6 (3%)       |
| 2006     | 97 (42%)    | 107 (46%)     | 11 (5%)            | 1 (0%)                         | 2 (1%)     | 15 (6%)      |
| 2007     | 138 (49%)   | 110 (39%)     | 16 (6%)            | 2 (1%)                         | 4 (1%)     | 10 (4%)      |
| 2008     | 118 (45%)   | 105 (40%)     | 12 (5%)            | 4 (2%)                         | 3 (1%)     | 18 (7%)      |
| 2009     | 94 (44%)    | 92 (43%)      | 13 (6%)            | 2 (1%)                         | 0 (0%)     | 13 (6%)      |
| 2010     | 101 (46%)   | 98 (45%)      | 4 (2%)             | 0 (0%)                         | 0 (0%)     | 15 (7%)      |
| 2011     | 98 (47%)    | 83 (40%)      | 8 (4%)             | 0 (0%)                         | 0 (0%)     | 19 (9%)      |
| 2012     | 53 (50%)    | 33 (31%)      | 4 (4%)             | 0 (0%)                         | 0 (0%)     | 15 (14%)     |



**Mediane CD4, fraktion med CD4<200, CD4<350 og viral load (log) på HIV diagnosetidspunktet fordelt på årstal (G100)**

| Årstal | Mediane CD4 | CD4 < 200 (%) | CD4<350 (%) | Mediane lag(viral load) |
|--------|-------------|---------------|-------------|-------------------------|
| 1995   | 294         | 34            | 56          | 4,37                    |
| 1996   | 279         | 41            | 61          | 4,45                    |
| 1997   | 297         | 35            | 58          | 4,64                    |
| 1998   | 288         | 35            | 57          | 4,70                    |
| 1999   | 290         | 36            | 58          | 4,73                    |
| 2000   | 270         | 39            | 59          | 4,87                    |
| 2001   | 274         | 41            | 59          | 4,94                    |
| 2002   | 342         | 33            | 51          | 5,05                    |
| 2003   | 351         | 30            | 49          | 4,84                    |
| 2004   | 328         | 29            | 52          | 4,80                    |
| 2005   | 360         | 28            | 47          | 4,78                    |
| 2006   | 340         | 29            | 51          | 4,77                    |
| 2007   | 340         | 26            | 51          | 4,86                    |
| 2008   | 360         | 23            | 47          | 4,60                    |
| 2009   | 355         | 28            | 49          | 4,82                    |
| 2010   | 380         | 27            | 47          | 5,12                    |
| 2011   | 340         | 33            | 50          | 5,17                    |
| 2012   | 320         | 37            | 53          | 5,08                    |



## Behandlingsdata

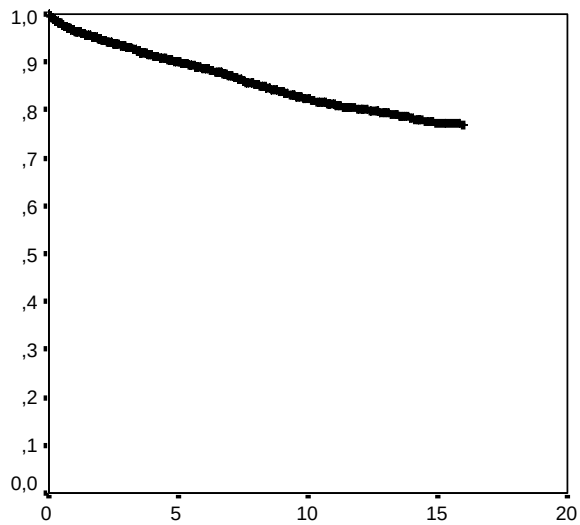
Antal patienter, som starter HAART fordelt på årstal og mediane viral load ved behandlingsstart (G8, G101, G102)

| Årstal | Antal | Mediane vl (log) | Andel med VL>100000 kopier/ml (%) |
|--------|-------|------------------|-----------------------------------|
| 1995   | 33    | 4,62             | 0,0                               |
| 1996   | 495   | 4,73             | 39,1                              |
| 1997   | 755   | 4,60             | 37,8                              |
| 1998   | 319   | 4,75             | 36,3                              |
| 1999   | 304   | 4,86             | 42,2                              |
| 2000   | 269   | 4,98             | 48,4                              |
| 2001   | 305   | 5,11             | 56,4                              |
| 2002   | 240   | 5,08             | 53,8                              |
| 2003   | 219   | 4,99             | 48,3                              |
| 2004   | 252   | 4,97             | 48,9                              |
| 2005   | 199   | 4,97             | 48,3                              |
| 2006   | 248   | 4,84             | 41,7                              |
| 2007   | 255   | 4,91             | 48,3                              |
| 2008   | 296   | 4,73             | 37,3                              |
| 2009   | 287   | 4,74             | 32,4                              |
| 2010   | 305   | 4,83             | 41,2                              |
| 2011   | 285   | 4,97             | 48,0                              |
| 2012   | 155   | 4,88             | 42,4                              |

**Antal patienter, som årligt skifter behandling (G14)**

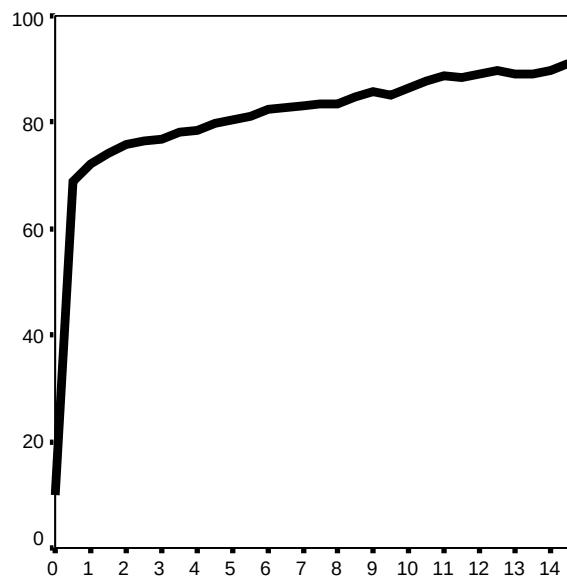
| Årstal | Antal |
|--------|-------|
| 1995   | 2     |
| 1996   | 170   |
| 1997   | 531   |
| 1998   | 630   |
| 1999   | 796   |
| 2000   | 734   |
| 2001   | 815   |
| 2002   | 773   |
| 2003   | 829   |
| 2004   | 803   |
| 2005   | 1.141 |
| 2006   | 1.067 |
| 2007   | 887   |
| 2008   | 851   |
| 2009   | 787   |
| 2010   | 765   |
| 2011   | 1.610 |
| 2012   | 1.217 |

Kaplan-Meier kurve for tid fra start af HAART til død.



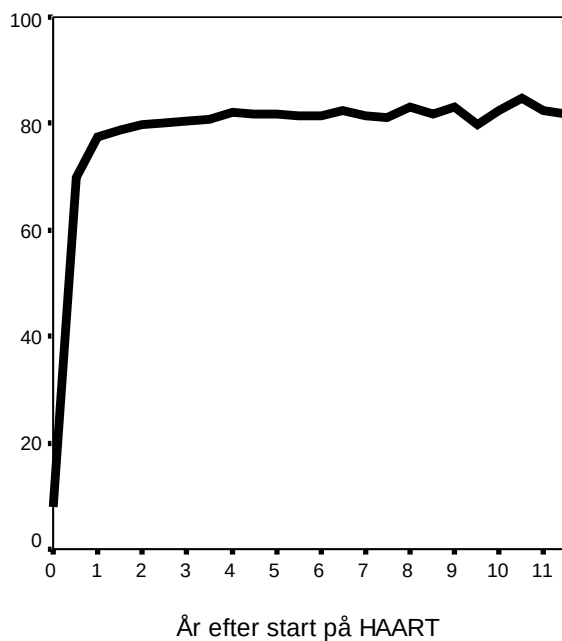
År efter start på HAART

Viser fraktionen af patienter, som har et viral load < 500 fordelt på år efter start af HAART.

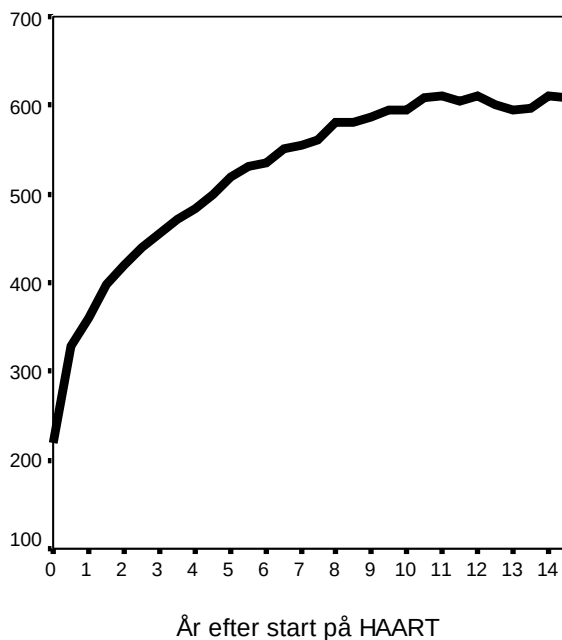


År efter start på HAART

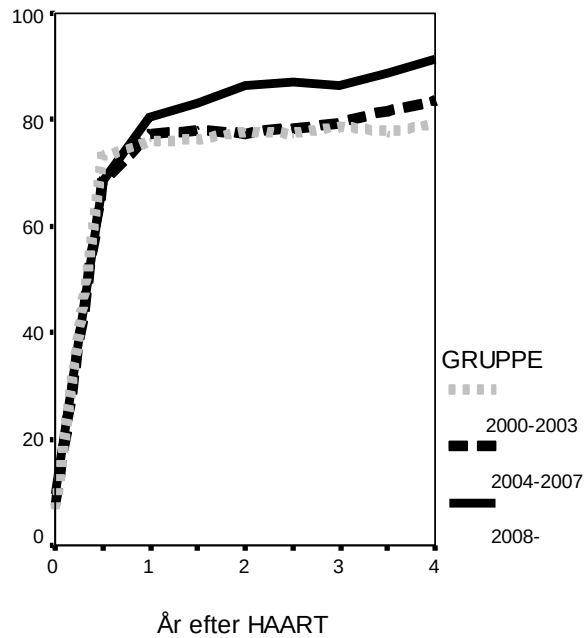
Fraktionen med VL<50 kopier/ml fordelt på år efter HAART. Kun personer, som er startet HAART efter 1. januar 2000 er medtaget i analysen.



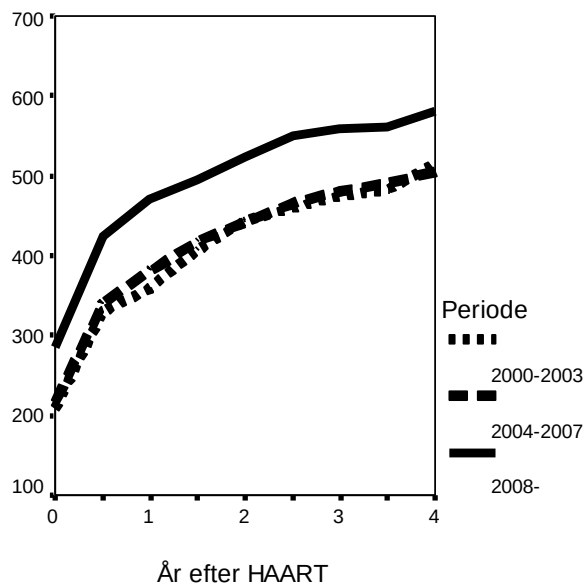
Viser mediane CD4 tal fordelt på år efter start af HAART.



Fraktion med viral load < 50 fordelt på periode for start af HAART (2000-2003, 2004-2007, 2008 og derefter).

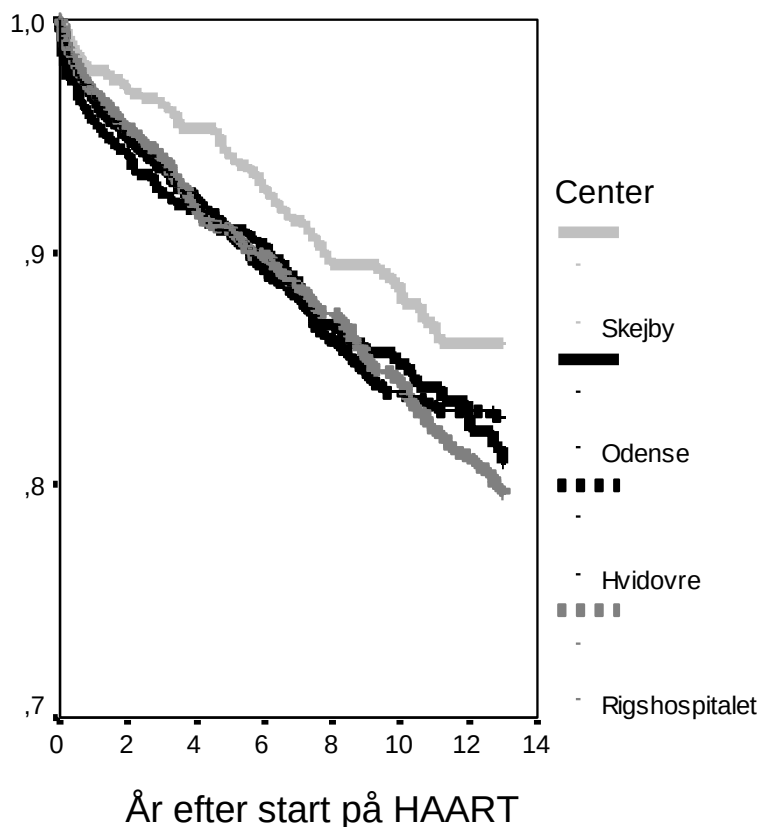


Mediane CD4 fordelt periode for start af HAART

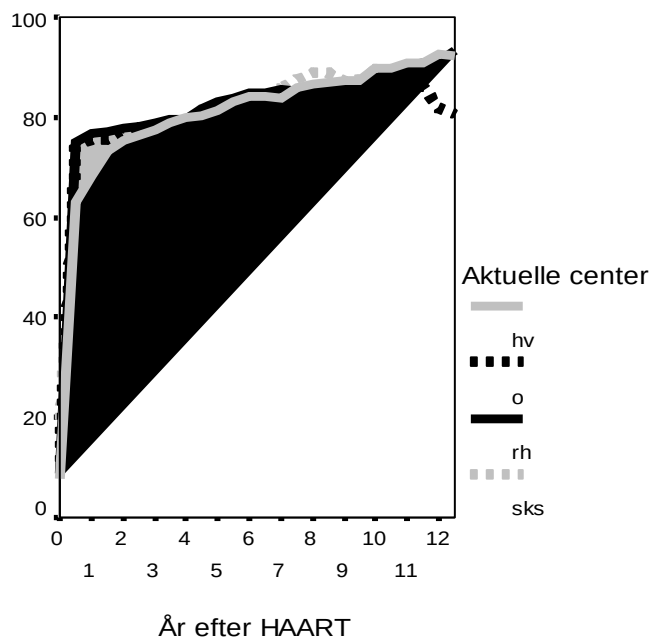


## Kvalitetskontrol

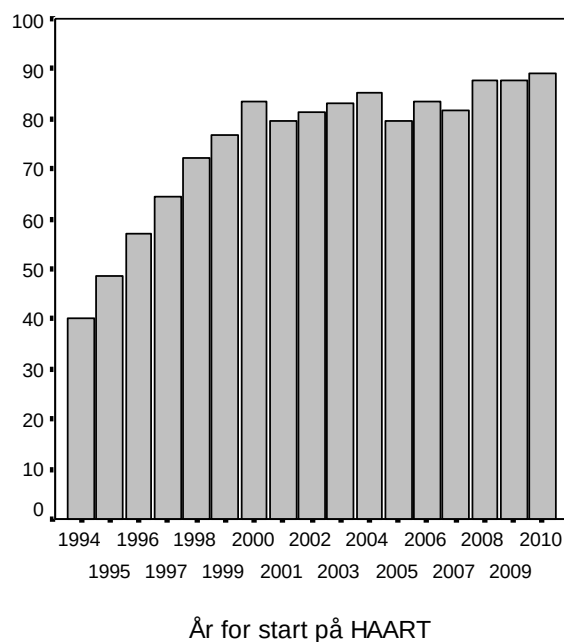
Den Danske HIV Kohorte kan også anvendes til kvalitetskontrol. Data fordelt på centre er offentliggjort med tilladelse fra overlæge, dr. med. Bjarne L. Ørskov, professor, overlæge, dr. med. Peter Skinhøj, overlæge, dr. med. Sven Stenvang Pedersen og professor, overlæge, dr. med. Lars Jørgen Østergaard, som er ansvarlige for de infektionsmedicinske afsnit i hhv. København (Hvidovre og Rigshospitalet), Odense og Århus (Skejby). Som det kan ses, er der ganske små forskelle på centrene, men disse er langt under, hvad der kan forventes ud fra tilfældig variation. De senere år har bl.a. STI (structured treatment interruptions) og studier som SMART medvirket til, at tidligere accepterede mål for behandlingssucces (undetactable viral load og CD4 tal) skal tolkes mere varsomt. Der er på ingen måde taget højde for den varians, der er mellem centrene i patientsammensætning. Der findes ikke i de center-relaterede data holdepunkter for reelle forskelle i behandlingsresultater, og de må ikke lede til overfortolkning af "de små tals magi". F. eks. kan man se i figuren over tid fra HAART til død, at de to store centre (Rigshospitalet og Hvidovre) ligger oven i hinanden, mens Skejby afviger, men denne afvigelse er bedømt ved Cox regression på ingen måde statistisk signifikant, men alene baseret på at udsvingene kan blive større, når populationen er mindre. Desuden skal man gøre sig klart, at tilhørsforholdet mellem patient og center over tid bliver mere "løst", idet mange skifter bopæl og dermed center, mens patienterne i analyserne udelukkende er registreret under det sidst anførte center. Dette fænomen kan over tid måske ligefrem betyde, at de centre, der antages at have den største ekspertise og dermed bedst kan håndtere de komplekse patienter vil få den største dødelighed.



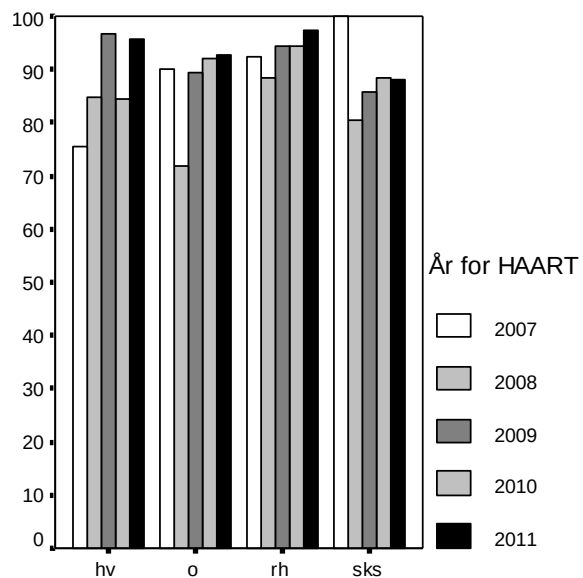




Viser fraktionen af patienter, som opnår et VL<200 fordelt på centre og år efter start af HAART.

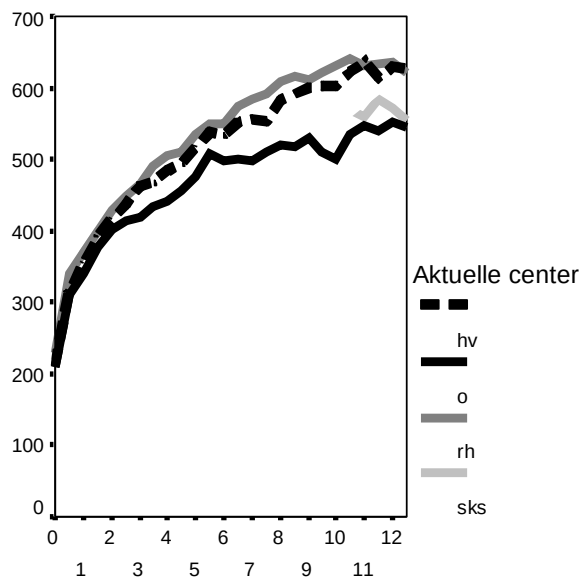


Viser hvor stor en del af patienterne der opnår et VL<500 til uge 120 (og som har overlevet til uge 120) fordelt på, hvilket år de starter HAART. De patienter, som er opført i søjlen "2002", er således startet HAART i 2002, mens værdien for VL til uge 120 er bestemt 120 uger senere, altså i 2004. Det danner derfor heller ikke mening at medtage 2011 patienterne, da de først får målt deres 120 ugers værdi i 2013.



Center, hvor pt går aktuelt

Viser fraktionen af patienter, som til uge 48 opnår et VL < 200. De hvide søjler angiver således de patienter, som startede HAART i 2007 og som fik målt et VL til uge 48 i 2008



År efter start på HAART

Viser median for CD4-tal fordelt på centre og år efter start af HAART.