

# THE LANCET HIV

## Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Jongen VW, Wit FWNM, Boyd A, et al. Effectiveness of bi-monthly long-acting injectable cabotegravir and rilpivirine as maintenance treatment for HIV-1 in the Netherlands: results from the Dutch ATHENA national observational cohort. *Lancet HIV* 2024; **12**: 40–50.

**Supplement to**

**Effectiveness of injectable long-acting cabotegravir and rilpivirine for the treatment of HIV-1: results from the Dutch ATHENA national observational cohort**

Vita W. Jongen, Ferdinand W.N.M. Wit, A. Boyd, A. van Eeden, A.E. Brouwer, R. Soetekouw, R. El Moussaoui, J. Stalenhoef, K. Sigaloff, T. Mudrikova, J. Gisolf, A. Wensing, Marc van der Valk, on behalf of the ATHENA national observational HIV cohort

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|--|----------|
| <b>Supplementary Table 1. Restricted mean survival time and time lost until loss of virologic control.....</b>         | <b>2</b> |
| <b>Supplementary Table 2. Reasons for switching ART .....</b>  | <b>3</b> |
| <b>Supplementary Table 3. Characteristics of patients using CAB/RPV with loss of virologic control.....</b>            | <b>4</b> |
| <b>Supplementary Table 4. Characteristics of patients using CAB/RPV off-label with loss of virologic control .....</b> | <b>6</b> |
| <b>Supplementary Table 5. Univariable and multivariable determinants of loss of virologic control .....</b>            | <b>8</b> |
| <b>Acknowledgement list of principal treating physicians at participating HIV treatment centers .....</b>              | <b>9</b> |

**Supplementary Table 1. Restricted mean survival time and time lost until loss of virologic control**

|  | Exposed         |               | Unexposed       |               | Between group contrast         |                |                           |               |
|--|-----------------|---------------|-----------------|---------------|--------------------------------|----------------|---------------------------|---------------|
|  | <i>Estimate</i> | <i>95% CI</i> | <i>Estimate</i> | <i>95% CI</i> | <i>Difference</i> <sup>3</sup> | <i>95% CI</i>  | <i>Ratio</i> <sup>4</sup> | <i>95% CI</i> |
| <b>Restricted mean survival time<sup>1</sup></b> | 2.964           | (2.296-3.002) | 2.938           | (2.898-2.977) | 0.026                          | -0.029 - 0.080 | 1.009                     | 0.990-1.028   |
| <b>Restricted mean time lost<sup>2</sup></b>     | 0.070           | (0.032-0.108) | 0.096           | (0.056-0.135) | NA                             | NA             | 0.730                     | 0.370-1.443   |

1. Indicates the expected survival time until virological failure for a patient using CAB/RPV or a standard ART regimen
2. Indicates the survival time lost up to the minimum largest observed event time (i.e., 3.034 years)
3. Calculated as  $RMST_{exposed} - RMST_{unexposed}$
4. Calculated as  $RMST_{exposed}/RMST_{unexposed}$  or  $RMT_{exposed}/RMT_{unexposed}$

**Supplementary Table 2. Reasons for switching ART**

|                                       | Exposed<br>(n=57)     |                  | Unexposed<br>(n=136)  |                  |
|---------------------------------------|-----------------------|------------------|-----------------------|------------------|
|                                       | <i>n</i> <sup>a</sup> | (%) <sup>a</sup> | <i>n</i> <sup>a</sup> | (%) <sup>a</sup> |
| <b>Loss of virologic control</b>      | 7                     | 12%              | 0                     | 0%               |
| <b>Adverse events<sup>1</sup></b>     | 28                    | 49%              | 48                    | 35%              |
| <b>Return to previous ART regimen</b> | 5                     | 9%               | 0                     | 0%               |
| <b>Patient wish</b>                   | 5                     | 9%               | 2                     | 1%               |
| <b>Interaction with co-medication</b> | 0                     | 0%               | 6                     | 4%               |
| <b>Regimen simplification</b>         | 0                     | 0%               | 51                    | 38%              |
| <b>Pregnancy related</b>              | 0                     | 0%               | 3                     | 2%               |
| <b>Precaution</b>                     | 3                     | 5%               | 17                    | 13%              |
| <b>Adherence problems</b>             | 1                     | 2%               | 1                     | 0.7%             |
| <b>Other/unknown reason</b>           | 8                     | 14%              | 8                     | 6%               |

1. Two individuals who experienced loss of virologic control re-suppressed spontaneously but later switched to an oral ART due to an adverse event.

**Supplementary Table 3. Characteristics of patients using CAB/RPV with loss of virologic control**

|   | #1                      | #2                               | #3                      | #4                      | #5                         | #6              | #7                 | #8                                | #9              | #10             | #11                            | #12                | #13                         | #14                            |
|---|-------------------------|----------------------------------|-------------------------|-------------------------|----------------------------|-----------------|--------------------|-----------------------------------|-----------------|-----------------|--------------------------------|--------------------|-----------------------------|--------------------------------|
| <b>Age, years</b>   | 45                      | 56                               | 39                      | 57                      | 33                         | 50              | 37                 | 49                                | 75              | 31              | 36                             | 49                 | 36                          | 31                             |
| <b>Gender</b>   | Male                    | Male                             | Male                    | Male                    | Male                       | Male            | Transgender female | Male                              | Male            | Male            | Male                           | Male               | Male                        | Male                           |
| <b>Region of origin</b>   | Caribbean/Latin America | Caribbean/Latin America          | Caribbean/Latin America | Caribbean/Latin America | Sub-Saharan Africa         | The Netherlands | The Netherlands    | Caribbean/Latin America           | The Netherlands | The Netherlands | Europe/North America/Australia | Sub-Saharan Africa | Other                       | Caribbean/Latin America        |
| <b>HIV transmission category</b>  | MSM                     | MSM                              | MSM                     | Heterosexual            | Heterosexual               | Heterosexual    | MSM                | MSM                               | Heterosexual    | MSM             | Unknown                        | MSM                | MSM                         | MSM                            |
| <b>BMI &gt;30 kg/m<sup>2</sup> at start follow-up</b>                         | No                      | No                               | Yes                     | No                      | No                         | Yes             | No                 | Yes                               | No              | No              | No                             | No                 | Yes                         | No                             |
| <b>BMI &gt;30 kg/m<sup>2</sup> around moment of loss of virologic control</b> | No <sup>4</sup>         | No                               | Yes                     | No                      | Not available              | Yes             | Not available      | Yes                               | Yes             | Yes             | No                             | No                 | Yes                         | No                             |
| <b>Longer needles used</b>  | No                      | No                               | Yes                     | No                      | No                         | Yes             | No                 | No                                | No              | Yes             | No                             | No                 | No                          | No                             |
| <b>HIV subtype A6<sup>1</sup></b>   | No                      | No                               | Not available           | No                      | Not available              | Not available   | Not available      | No                                | No              | No              | No                             | No <sup>6</sup>    | Yes                         | No <sup>7</sup>                |
| <b>Years since start ART</b>  | 13                      | 18                               | 15                      | 16                      | 8.5                        | 7.5             | 6.7                | 7.6                               | 5.2             | 5.2             | 2.4                            | 12                 | 7.2                         | 1.9                            |
| <b>Nadir CD4</b>  | 260                     | 90                               | 350                     | 10                      | 320                        | 70              | 270                | 140                               | 130             | 1,250           | 290                            | Unknown            | Unknown                     | 440                            |
| <b>CD4 at start follow-up</b>   | 757                     | 780                              | 920                     | 397                     | 800                        | 810             | 670                | 1,010                             | 410             | 1,220           | 730                            | 670                | 270                         | 440                            |
| <b>Blips before start follow-up<sup>2,3</sup></b>                             | 0                       | 0                                | 0                       | 0                       | 0                          | 0               | 0                  | 0                                 | 0               | 0               | 0                              | 0                  | 0                           | 0                              |
| <b>Blips during follow-up<sup>2</sup></b>                                     | 1                       | 0                                | 0                       | 1                       | 0                          | 2               | 1                  | 0                                 | 0               | 0               | 0                              | 0                  | 0                           | 0                              |
| <b>Oral lead-in</b>   | Yes                     | Yes                              | Yes                     | Yes                     | Yes                        | Yes             | Yes                | Yes                               | Yes             | Yes             | No                             | Yes                | Yes                         | Yes                            |
| <b>IM injections within window</b>  | Yes                     | Yes                              | Yes                     | Yes                     | Yes                        | Yes             | Yes                | Yes                               | Yes             | Yes             | Yes                            | Yes                | Yes                         | Yes                            |
| <b>Time since last viral load measurement, months</b>                         | 8.0                     | 5.5                              | 6.0                     | 7.2                     | 5.7                        | 1.9             | 7.0                | 5.8                               | 7.3             | 0.2             | 15.1                           | 4.8                | 4.7                         | 1.8                            |
| <b>HIV RNA at loss of virologic control, c/mL</b>                             | 331                     | 261<br>2 months later<br>614,761 | 338                     | 275                     | 334<br>4 days later<br>503 | 200             | 15000              | 94,230<br>1 month later<br>14,510 | 215             | 600             | 1,471                          | 3,750              | 635<br>13 days later<br>814 | 1,738<br>5 days later<br>1,413 |
| <b>Time until loss of virologic control, days</b>                             | 422                     | 123                              | 494                     | 600                     | 551                        | 384             | 269                | 278                               | 280             | 116             | 1,173                          | 86                 | 234                         | 144                            |
| <b>Re-suppression without ART change</b>                                      | Yes                     | No                               | Yes                     | Yes                     | No                         | Yes             | No                 | No                                | Yes             | Yes             | No                             | Yes                | No                          | No                             |
| <b>Follow-up available after re-suppression, days</b>                         | 35                      | NA                               | 0                       | 0                       | NA                         | 35              | NA                 | NA                                | 441             | 0               | 0                              | 66                 | NA                          | NA                             |

|  |          |   |          |                            |            |            |                            |                                 |                  |                  |                             |          |                       |  |
|--|----------|---|----------|----------------------------|------------|------------|----------------------------|---------------------------------|------------------|------------------|-----------------------------|----------|-----------------------|--|
| <b>ART switch after loss of virologic control</b>                | No       | Yes                                     | No       | No                         | Yes        | No         | Yes                        | Yes                             | Yes <sup>5</sup> | Yes <sup>5</sup> | Yes                         | No       | Yes                   | Yes  |
| <b>RAMs detected after loss of virologic control<sup>1</sup></b> | Not done | INI: 155H<br>RT: 101E+13<br>8K+<br>230L | Not done | Not done                   | RT: Y188L  | Not done   | INI: 148R<br>RT: 101E+138K | INI: 140CS+148<br>R<br>RT: 101E | Not done         | Not done         | Attempt failed <sup>9</sup> | Not done | INI: 155S<br>RT: 138K | INI: L74I+<br>V165I<br>RT: Y181C+H<br>221Y |
| <b>CAB concentration at loss of virologic control</b>            | Not done | Not done                                | Not done | Not available <sup>7</sup> | 1.31 mg/L  | 1.86 mg/L  | 2.50 mg/L                  | Not done                        | Not done         | Not done         | Not available <sup>7</sup>  | Not done | 0.91 mg/L             | Not done                                   |
| <b>RPV concentration at loss of virologic control</b>            | Not done | Not done                                | Not done | Not available <sup>7</sup> | 0.115 mg/L | 0.085 mg/L | 0.005 mg/L                 | Not done                        | Not done         | Not done         | Not available <sup>7</sup>  | Not done | 0.026 mg/L            | Not done                                   |

1. HIV-1 sequence analysis interpreted with IAS-USA resistance tables and Comet subtype tool
2. Blip was defined as a viral load between 50-199 copies/mL.
3. Presented as the number of blips in the 2 years prior to start of follow-up.
4. BMI measured 16 months before virological failure
5. Change in ART regimen was due to an adverse event, after viral load was undetectable.
6. Individual had HIV subtype CRF18\_CPX
7. Individual received injections in the leg
8. CAB and RPV plasma concentrations were not yet available at the time of writing
9. Genotypic resistance results were not available. Two attempts for sequencing by two different laboratories failed.

**Supplementary Table 4. Characteristics of patients using CAB/RPV off-label with loss of virologic control**

|   | #1                   | #2                      | #3                 | #4                      | #5                      | Patient #6      | Patient #7         | Patient #8           | Patient #9       |
|---|----------------------|-------------------------|--------------------|-------------------------|-------------------------|-----------------|--------------------|----------------------|------------------|
| <b>Age, years</b>   | 45                   | 27                      | 49                 | 46                      | 40                      | 48              | 26                 | 43                   | 40               |
| <b>Gender</b>   | Female               | Female                  | Female             | Female                  | Female                  | Male            | Female             | Female               | Male             |
| <b>Region of origin</b>   | The Netherlands      | Caribbean/Latin America | Sub-Saharan Africa | Caribbean/Latin America | Caribbean/Latin America | The Netherlands | Sub-Saharan Africa | Sub-Saharan Africa   | The Netherlands  |
| <b>HIV transmission category</b>                                | Heterosexual         | Pediatric               | Heterosexual       | Heterosexual            | Heterosexual            | Heterosexual    | Heterosexual       | Heterosexual         | MSM              |
| <b>BMI &gt;30 kg/m<sup>2</sup> before start CAB/RPV</b>         | No                   | No                      | No                 | No                      | Yes                     | No              | Yes                | No                   | Yes <sup>5</sup> |
| <b>BMI &gt;30 kg/m<sup>2</sup> at loss of virologic control</b> | No                   | No                      | Not available      | No                      | Yes                     | No              | Yes                | No <sup>4</sup>      | Yes <sup>5</sup> |
| <b>Longer needles used</b>                                      | No                   | No                      | No                 | No                      | No                      | No              | No                 | No                   | No               |
| <b>HIV subtype A6<sup>1</sup></b>                               | No                   | No                      | Not available      | No                      | No                      | No              | No                 | No                   | No               |
| <b>Known RPV associated RAMS at baseline</b>                    | No                   | No                      | Not available      | No                      | No                      | No              | No                 | No                   | No               |
| <b>Years since start ART</b>                                    | 20                   | 24                      | 17                 | 13                      | 11                      | 8               | 2                  | 10                   | 0                |
| <b>ART regimen before start CAB/RPV</b>                         | TAF/FTC/DRV/D TG/COB | TAF/FTC/BIC             | RPV/DTG            | TAF/FTC/BIC             | TAF/FTC/DRV/COB         | TAF/FTC/DTG     | TAF/FTC/DRV/COB    | TAF/FTC/DRV/D TG/COB | TAF/FTC/BIC      |
| <b>Nadir CD4</b>  | 20                   | 140                     | 240                | 98                      | 40                      | 69              | 280                | Not available        | Not available    |
| <b>CD4 at start follow-up</b>                                   | 120                  | 270                     | 630                | 19                      | 1070                    | 393             | 340                | 152                  | Not available    |
| <b>Time since last HIV-1 RNA measurement, months</b>            | 1.4                  | 1.1                     | 1.4                | 1.6                     | 0.6                     | 3.0             | 4.8                | 4.1                  | 2.1              |
| <b>HIV-1 RNA at start follow-up</b>                             | 100                  | Undetectable            | Undetectable       | Undetectable            | Undetectable            | Undetectable    | Undetectable       | Undetectable         | Undetectable     |
| <b>Blips before start follow-up<sup>2,3</sup></b>               | 4                    | 0                       | 1                  | 0                       | 0                       | 5               | 2                  | 1                    | 1                |
| <b>Blips during follow-up<sup>2</sup></b>                       | 3                    | 3                       | 2                  | 0                       | 0                       | 1               | 0                  | 4                    | 0                |
| <b>Oral lead-in IM injections within window</b>                 | Yes                  | No                      | Yes                | Yes                     | Yes                     | No              | Yes                | No                   | Yes              |
| <b>HIV RNA at moment of failure, c/mL</b>                       | 200                  | 962                     | 753                | 2,230                   | 231                     | 8,310,000       | 200                | 3,122                | 220              |
| <b>Time until loss of virologic control, days</b>               | 18                   | 243                     | 213                | 23                      | 332                     | 82              | 678                | 152                  | 121              |

|  |           |           |                            |          |            |                                 |                  |            |            |
|--|-----------|-----------|----------------------------|----------|------------|---------------------------------|------------------|------------|------------|
| <b>Re-suppression without ART change</b>                         | No        | Yes       | No                         | No       | No         | No                              | Yes              | No         | No         |
| <b>ART switch after loss of virologic control</b>                | Yes       | No        | Yes                        | Yes      | Yes        | Yes                             | Yes <sup>6</sup> | Yes        | Yes        |
| <b>RAMs detected after loss of virologic control<sup>1</sup></b> | INI: 155H | No        | INI: Q148R<br>RT: Y181C    | RT: 138K | No         | RT:<br>K101EK+V179D+Y181C+V189I | No               | No         | RT: K101E  |
| <b>CAB concentration at loss of virologic control</b>            | Not done  | Not done  | Not available <sup>7</sup> | Not done | Not done   | 0.42 mg/L                       | Not available    | 0.84 mg/L  | 0.95 mg/L  |
| <b>RPV concentration at loss of virologic control</b>            | Not done  | 0.09 mg/L | Not available <sup>7</sup> | Not done | 0.087 mg/L | 0.036 mg/L                      | Not available    | 0.085 mg/L | 0.079 mg/L |

1. HIV-1 sequence analysis interpreted with IAS-USA resistance tables and Comet subtype tool
2. Blip was defined as a viral load between 50-200 copies/mL.
3. Presented as the number of blips in the 2 years prior to start of follow-up.
4. BMI measured 13 months before loss of virologic control
5. BMI measured 12 months before loss of virologic control
6. Change in ART regimen was due to a pregnancy wish, after viral load was undetectable.
7. CAB and RPV plasma concentrations were not yet available at the time of writing



**Supplementary Table 5. Univariable and multivariable determinants of loss of virologic control**

|   | Exposed individuals |                          | Individuals with previous virological failure |                     |
|---|---------------------|--------------------------|---|---------------------|
|   | HR (95%CI)          | aHR (95%CI) <sup>b</sup> | HR (95%CI)                                    | aHR (95%CI)         |
| <b>Age</b>  | 1.00 (0.96-1.04)    |                          | 0.96 (0.90-1.02)                              |                     |
| <b>Gender</b>   |                     |                          |   |                     |
|   | Male                | a                        | REF   | REF                 |
|   | Female              |                          | 9.95 (2.07-47.90)                             | 15.11 (1.85-123.07) |
| <b>Migration background</b>                                 |                     |                          |   |                     |
|   | No                  | REF                      | REF   |                     |
|   | Yes                 | 0.32 (0.10-1.01)         | 0.58 (0.15-2.33)                              |                     |
| <b>HIV subtype A6<sup>b</sup></b>                           |                     |                          |   |                     |
|   | No                  | a                        | a   | a                   |
|   | Yes                 |                          |   |                     |
| <b>BMI &gt; 30 kg/m<sup>2</sup></b>                         |                     |                          |   |                     |
|   | No                  | REF                      | REF   |                     |
|   | Yes                 | 2.13 (0.67-6.79)         | 2.39 (0.44-13.05)                             |                     |
| <b>Known RPV associated RAMS at baseline<sup>c</sup></b>    |                     |                          |   |                     |
|   | No                  | a                        | a   | a                   |
|   | Yes                 |                          |   |                     |
| <b>Years since HIV diagnosis, median [IQR]</b>              | 0.97 (0.89-1.06)    |                          | 0.98 (0.91-1.05)                              |                     |
| <b>Years since start ART, median [IQR]</b>                  | 0.98 (0.90-1.07)    |                          | 1.00 (0.93-1.08)                              |                     |
| <b>Nadir CD4, median [IQR]</b>                              | 1.00 (1.00-1.00)    |                          | 0.99 (0.99-1.00)                              |                     |
| <b>Prior AIDS diagnosis</b>                                 |                     |                          |   |                     |
|   | No                  | REF                      | REF   | REF                 |
|   | Yes                 | 1.93 (0.54-6.91)         | 5.08 (1.21-21.26)                             | 4.32 (1.03-18.09)   |
| <b>Number of virological failure before start follow-up</b> |                     |                          | 1.01 (0.99-1.04)                              |                     |
| <b>Oral lead-in</b>   |                     |                          |   |                     |
|   | No                  | REF                      | REF   |                     |
|   | Yes                 | 0.80 (0.10-6.08)         | 0.22 (0.06-0.88)                              |                     |

**Abbreviations:** aHR, adjusted hazard ratio; AIDS, Acquired Immune Deficiency Syndrome; ART, antiretroviral therapy; BMI, body mass index; CAB, cabotegravir; HIV, human immunodeficiency virus; HR, hazard ratio; IQR, interquartile range; kg, kilogram; m, meters; RAMS, resistance-associated mutations; RPV, rilpivirine

- a. Not taken into account due to 0 observations in one of the cells
- b. No determinants were associated with the outcome in the multivariable model

## Acknowledgement list of principal treating physicians at participating HIV treatment centers

Latest update: 17 September 2024

### Clinical centres

\* denotes site coordinating physician

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*HIV data collection:* T. van Niekerk. *HIV clinical virologists/chemists:* C. van Tienen.

**Maastricht UMC+, Maastricht:**

*HIV treating physicians:* S.H. Lowe\*, A.M.L. Oude Lashof, D. Posthouwer, A. Stoop, M.E. van Wolfswinkel. *HIV nurse consultants:* R.P. Ackens, M. Elasri, K. Houben-Pintaric, J. Schippers.

*HIV clinical virologists/chemists:* T.R.A. Havenith, M. van Loo.

**Medisch Centrum Leeuwarden, Leeuwarden:**

*HIV treating physicians:* M.G.A. van Vonderen\*, L.M. Kampschreur, S.E. van Roeden. *HIV nurse consultants:* M.C. van Broekhuizen, S. Faber. *HIV clinical virologists/chemists:* A. Al Moujahid.

**Medisch Spectrum Twente, Enschede:**

*HIV treating physicians:* G.J. Kootstra\*, C.E. Delsing. *HIV nurse consultants:* M. van der Burg-van de Plas, L. Scheiberlich.

**Noordwest Ziekenhuisgroep, Alkmaar:**

*HIV treating physicians:* W. Kortmann\*, G. van Twillert\*, R. Renckens, J. Wagenaar.

*HIV nurse consultants & HIV data collection:* D. Ruiter-Pronk, B. Stander.

*HIV clinical virologists/chemists:* J.W.T. Cohen Stuart, M. Hoogewerf, W. Rozemeijer, J.C. Sinnige.

**OLVG, Amsterdam:**

*HIV treating physicians:* K. Brinkman\*, G.E.L. van den Berk, K.D. Lettinga, M. de Regt, W.E.M. Schouten, J.E. Stalenhoef, S.M.E. Vrouwenraets. *HIV nurse consultants:* H. Blaauw, G.F. Geerders, M.J. Kleene, M. Knapen, M. Kok, I.B. van der Meché, A.J.M. Toonen, S. Wijnands, E. Wttewaal. *HIV clinical virologists:* D. Kwa, T.J.W. van de Laar.

**Radboudumc, Nijmegen:**

*HIV treating physicians:* R. van Crevel\*, K. van Aerde, A.S.M. Dofferhoff, S.S.V. Henriët, H.J.M. ter Hofstede, J. Hoogerwerf, O. Richel, K. Stol. *HIV nurse consultants:* M. Albers, K.J.T. Grintjes-Huisman, M. de Haan, M. Marneef. *HIV clinical virologists/chemists:* M. McCall, J. Rahamat-Langendoen, E. Ruizendaal. *HIV clinical pharmacology consultant:* D. Burger.

**Rijnstate, Arnhem:** *HIV treating physicians:* E.H. Gisolf\*, M. Claassen, R.J. Hassing,. *HIV nurse consultants:* G. ter Beest, P.H.M. van Bentum, Y. Neijland, M. Valette. *HIV clinical virologists/chemists:* C.M.A. Swanink, M. Klein Velderman.

**Spaarne Gasthuis, Haarlem:**

*HIV treating physicians:* S.F.L. van Lelyveld\*, R. Soetekouw. *HIV nurse consultants:* L.M.M. van der Prijt, J. van der Swaluw. *HIV clinical virologists/chemists:* J.S. Kalpoe, A. Wagemakers, A. Vahidnia.

**Medisch Centrum Jan van Goyen, Amsterdam:**

*HIV treating physicians:* F.N. Lauw, D.W.M. Verhagen. *HIV nurse consultants:* M. van Wijk.

**Universitair Medisch Centrum Groningen, Groningen:**

*HIV treating physicians:* W.F.W. Bierman\*, M. Bakker, J. Kleinnijenhuis, E. Kloeze, A. Middel, D.F. Postma, Y. Stienstra, M. Wouthuyzen-Bakker. *HIV nurse consultants:* A. Boonstra, M.M.M. Maerman, D.A. de Weerd. *HIV clinical virologists/chemists:* M. Knoester, C.C. van Leer-Buter, H.G.M. Niesters, X.W. Zhou.

**Beatrix Kinderziekenhuis (Universitair Medisch Centrum Groningen), Groningen:**

*HIV treating physicians:* B.R. Brandsema, E.H. Schölvink, A.R. Verhage. *HIV nurse consultants:* N. van der Woude. *HIV clinical virologists/chemists:* M. Knoester, C.C. van Leer-Buter, H.G.M. Niesters, X.W. Zhou.

**Universitair Medisch Centrum Utrecht, Utrecht:**

*HIV treating physicians:* T. Mudrikova\*, R.E. Barth, A.H.W. Bruns, P.M. Ellerbroek, M.P.M. Hensgens, J.J. Oosterheert, E.M. Schadd, A. Verbon, B.J. van Welzen. *HIV nurse consultants:* B.M.G. Griffioen-van Santen, L. van de Koolwijk, I. de Kroon. *HIV clinical virologists/chemists:* F.M. Verduyn Lunel, A.M.J. Wensing.

**Wilhelmina Kinderziekenhuis, UMC Utrecht, Utrecht:**

*HIV treating physicians:* Y.G.T. Loeffen, T.F.W. Wolfs. *HIV nurse consultants:* M. Kok. *HIV clinical virologists/chemists:* F.M. Verduyn Lunel, A.M.J. Wensing.

Curaçao Medical Center, Willemstad (Curaçao): *HIV treating physicians:* E.O.W. Rooijackers, D. van de Wetering. *HIV nurse consultants:* A. Alberto. *Data collection:* I. der Meer.

**Coordinating center**

*Board of directors:* M. van der Valk, S. Zaheri.

*HIV data analysis:* A.C. Boyd, D.O. Bezemer, V.W. Jongen, S. Popping, A.I. van Sighem, C. Smit, F.W.M.N. Wit.

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