

Benno Haarman, psychiatrist  
Clinical Cognitive Neuropsychiatry Research Program (CCNP)



## Research interests

Bartholomeus Cornelius Maria (Benno) Haarman (1978) is a Researcher at the University of Groningen, the Netherlands, and a Psychiatrist and Head of the Mood and Anxiety Disorder Program of the Department of Psychiatry, University Medical Center Groningen.

The program for Mood and Anxiety Disorders of the Department of Psychiatry has a clear focus on academic patient care, integrating top level health care with the latest insights from experimental research and teaching. The program joins the ambition the Department in bringing innovative neurostimulating treatments such as rTMS and DBS as well as chronotherapy and psycho-stimulating medication that have been proven in research into clinical practice.

Alongside continuing efforts to elucidate the pathophysiology of bipolar disorder, Dr. Haarman's research currently focuses on the treatment of this severe psychiatric illness using immune modulating and chronobiological therapies. From October 2008 until March 2017 he performed his PhD-candidacy under the supervision of Prof. Willem Nolen, Prof. Hemmo Drexhage, Dr. Rixt Riemersma-Van der Lek and Dr. Huib Burger at the University of Groningen, the Netherlands. He participated in the MOODINFLAME study, where he coordinated the inclusion of the bipolar cohort, performed a combined positron emission tomography/magnetic resonance imaging study and analyzed monocyte gene expression. In 2017 he obtained his PhD-degree with highest honor.

His publications include articles on the first neuroinflammation position emission tomography study in bipolar disorder and on the association between monocyte gene expression and specific psychiatric symptomatology in bipolar disorder, using a novel approach. This last publication earned him the Samuel Gershon award of the International Society for Bipolar Disorders (2013).

Benno graduated from his medical studies with great honor in 2006 at the University Antwerp, Belgium. While studying medicine, he performed his master thesis on the topic of microvascular compression of the cochleovestibular nerve in the neurosurgery department of the Antwerp University Hospital, under the supervision of Prof. Dirk de Ridder. He also obtained his teaching certificate in biology.

## Research outputs

### Association between polarity of first episode and solar insolation in bipolar I disorder

Bauer, M., Glenn, T., Achtyes, E. D., Alda, M., Agaoglu, E., Altinbaş, K., Andreassen, O. A., Angelopoulos, E., Arda, R., Aydin, M., Ayhan, Y., Baethge, C., Bauer, R., Baune, B. T., Balaban, C., Becerra-Palars, C., Behere, A. P., Behere, P. B., Belete, H., Belete, T. & 139 others, Belizario, G. O., Bellivier, F., Belmaker, R. H., Benedetti, F., Berk, M., Bersudsky, Y., Bicakci, Ş., Birabwa-Oketcho, H., Bjella, T. D., Brady, C., Cabrera, J., Cappucciati, M., Castro, A. M. P., Chen, W. L., Cheung, E. Y. W., Chiesa, S., Crowe, M., Cuomo, A., Dallspezia, S., Del Zompo, M., Desai, P., Dodd, S., Etain, B., Fagiolini, A., Fellendorf, F. T., Ferenczajtjn-Rochowiak, E., Fiedorowicz, J. G., Fountoulakis, K. N., Frye, M. A., Geoffroy, P. A., Gonzalez-Pinto, A., Gottlieb, J. F., Grof, P., Haarman, B. C. M., Harima, H., Hasse-Sousa, M., Henry, C., Høffding, L., Houenou, J., Imbesi, M., Isometsä, E. T., Ivkovic, M., Janno, S., Johnsen, S., Kapczinski, F., Karakatsoulis, G. N., Kardell, M., Kessing, L. V., Kim, S. J., König, B., Kot, T. L., Koval, M., Kunz, M., Lafer, B., Landén, M., Larsen, E. R., Lenger, M., Lewitzka, U., Licht, R. W., Lopez-Jaramillo, C., MacKenzie, A., Madsen, H. Ø., Madsen, S. A. K. A., Mahadevan, J., Mahardika, A., Manchia, M., Marsh, W., Martinez-Cengotitabengoa, M., Martiny, K., Mashima, Y., McLoughlin, D. M., Meesters, Y., Melle, I., Meza-Urzúa, F., Mok, Y. M., Monteith, S., Moorthy, M., Morken, G., Mosca, E., Mozzhegorov, A. A., Munoz, R., Mythri, S. V., Nacef, F., Nadella, R. K., Nakanotani, T., Nielsen, R. E., O'Donovan, C., Omrani, A., Osher, Y., Ouali, U., Pantovic-Stefanovic, M., Pariwatcharakul, P., Petite, J., Pfenning, A., Ruiz, Y. P., Pinna, M., Pompili, M., Porter, R., Quiroz, D., Rabelo-da-Ponte, F. D., Ramesar, R., Rasgon, N., Ratta-apha, W., Ratzenhofer, M., Redahan, M., Reddy, M. S., Reif, A., Reininghaus, E. Z., Richards, J. G., Ritter, P., Rybakowski, J. K., Sathyaputri, L., Scippa, Á. M., Simhandl, C., Smith, D., Smith, J., Stackhouse, P. W., Stein, D. J., Stilwell, K., Strejilevich, S., Su, K. P., Subramaniam, M., Sulaiman, A. H., Suominen, K., Tanra, A. J., Tatebayashi, Y., Teh, W. L., Tondo, L., Torrent, C., Tuinstra, D., Uchida, T., Vaaler, A. E., Vieta, E., Viswanath, B., Yoldi-Negrete, M., Yalcinkaya, O. K., Young, A. H., Zgueb, Y. & Whybrow, P. C., Sep-2022, In: Journal of Psychosomatic Research. 160, 10 p., 110982.

### Anti-inflammatory dietary patterns to treat bipolar disorder?

Grandjean, E. L., van Zonneveld, S. M., Sommer, I. E. C. & Haarman, B. C. M., 15-Aug-2022, In: Journal of Affective Disorders. 311, p. 254-255 2 p.

**Smartphone-based interventions in bipolar disorder: Systematic review and meta-analyses of efficacy. A position paper from the International Society for Bipolar Disorders (ISBD) Big Data Task Force**

Anmella, G., Faurholt-Jepsen, M., Hidalgo-Mazzei, D., Radua, J., Passos, I. C., Kapczinski, F., Minuzzi, L., Alda, M., Meier, S., Hajek, T., Ballester, P., Birmaher, B., Hafeman, D., Goldstein, T., Brietzke, E., Duffy, A., Haarman, B., López-Jaramillo, C., Yatham, L. N., Lam, R. W. & 6 others, Isometsa, E., Mansur, R., McIntyre, R. S., Mwangi, B., Vieta, E. & Kessing, L. V., 15-Jul-2022, (E-pub ahead of print) In: *Bipolar Disorders*.

**Metabolic phenotyping reveals a potential link between elevated faecal amino acids, diet and symptom severity in individuals with severe mental illness**

Jansma, J., Essen, R. V., Haarman, B. C. M., Chatzioannou, A. C., Borkent, J., Ioannou, M., Hemert, S. V., Sommer, I. E. C. & Aidy, S. E., Jul-2022, In: *Journal of Psychiatric Research*. 151, p. 507-515 9 p.

**Social rhythm disruption is associated with greater depressive symptoms in people with mood disorders: Findings from a multinational online survey during COVID-19**

Kahawage, P., Bullock, B., Meyer, D., Gottlieb, J., Crowe, M., Swartz, H. A., Yatham, L. N., Inder, M., Porter, R. J., Nierenberg, A. A., Meesters, Y., Gordijn, M., Haarman, B. C. M. & Murray, G., 10-May-2022, (E-pub ahead of print) In: *The Canadian Journal of Psychiatry*. 10 p.

**Role of the gut microbiome in three major psychiatric disorders**

Borkent, J., Ioannou, M., Laman, J. D., Haarman, B. C. M. & Sommer, I. E. C., 4-May-2022, In: *Psychological Medicine*. 52, 7, p. 1222-1242 21 p., 0033291722000897.

**Unhealthy diet in schizophrenia spectrum disorders**

van Zonneveld, S. M., Haarman, B. C. M., van den Oever, E. J., Nuninga, J. O. & Sommer, I. E. C., 1-May-2022, In: *Current opinion in psychiatry*. 35, 3, p. 177-185 9 p.

**Anticipating manic and depressive transitions in patients with bipolar disorder using early warning signals**

Bos, F. M., Schreuder, M. J., George, S. V., Doornbos, B., Bruggeman, R., van der Krieke, L., Haarman, B. C. M., Wichers, M. & Snippe, E., 9-Apr-2022, In: *International Journal of Bipolar Disorders*. 10, 1, 14 p., 12.

**Adrift in time: The subjective experience of circadian challenge during COVID-19 amongst people with mood disorders**

Kahawage, P., Crowe, M., Gottlieb, J., Swartz, H. A., Yatham, L. N., Bullock, B., Inder, M., Porter, R., Nierenberg, A. A., Meesters, Y., Gordijn, M., Haarman, B. C. M. & Murray, G., Jan-2022, In: *Chronobiology International*. 39, 1, p. 57-67 11 p.

**What we learn about bipolar disorder from large-scale neuroimaging: Findings and future directions from the ENIGMA Bipolar Disorder Working Group**

ENIGMA Bipolar Disorder Wor, Ching, C. R. K., Hibar, D. P., Gurholt, T. P., Nunes, A., Thomopoulos, S. I., Abe, C., Agartz, I., Brouwer, R. M., Cannon, D. M., de Zwarte, S. M. C., Eyer, L. T., Favre, P., Hajek, T., Haukvik, U. K., Houenou, J., Landen, M., Lett, T. A., McDonald, C., Nabulsi, L. & 31 others, Patel, Y., Pauling, M. E., Paus, T., Radua, J., Soeiro-de-Souza, M. G., Tronchin, G., van Haren, N. E. M., Vieta, E., Walter, H., Zeng, L-L., Alda, M., Almeida, J., Alnaes, D., Alonso-Lana, S., Altimus, C., Bauer, M., Baune, B. T., Bearden, C. E., Bellani, M., Benedetti, F., Berk, M., Bilderbeck, A. C., Blumberg, H. P., Boen, E., Bollettini, I., del Mar Bonnin, C., Brambilla, P., Canales-Rodriguez, E. J., Caseras, X., Haarman, B. C. M. & Ruhe, H. G., Jan-2022, In: *Human brain mapping*. 43, 1, p. 56-82 27 p.

**Monocyte mitochondrial dysfunction, inflammaging, and inflammatory pyroptosis in major depression**

Simon, M. S., Schiweck, C., Arteaga-Henríquez, G., Poletti, S., Haarman, B. C. M., Dik, W. A., Schwarz, M., Vrieze, E., Mikova, O., Joergens, S., Musil, R., Claes, S., Baune, B. T., Leboyer, M., Benedetti, F., Furlan, R., Berghmans, R., de Wit, H., Wijkhuijs, A., Arolt, V. & 2 others, Müller, N. & Drexhage, H. A., 20-Dec-2021, In: *Progress in Neuro-Psychopharmacology & Biological Psychiatry*. 111, 11 p., 110391.

**Diagnosis of bipolar disorders and body mass index predict clustering based on similarities in cortical thickness-ENIGMA study in 2436 individuals**

ENIGMA Bipolar Disorders Working Group, McWhinney, S. R., Abé, C., Alda, M., Benedetti, F., Bøen, E., Del Mar Bonnin, C., Borgers, T., Brosch, K., Canales-Rodríguez, E. J., Cannon, D. M., Dannlowski, U., Diaz-Zuluaga, A. M., Dietze, L., Elvsåshagen, T., Eyer, L. T., Fullerton, J. M., Goikolea, J. M., Goltermann, J., Grotegerd, D. & 31 others, Haarman, B. C. M., Hahn, T., Howells, F. M., Ingvar, M., Kircher, T. T. J., Krug, A., Kuplicki, R. T., Landén, M., Lemke, H., Liberg, B.,

Lopez-Jaramillo, C., Malt, U. F., Martyn, F. M., Mazza, E., McDonald, C., McPhilemy, G., Meier, S., Meinert, S., Meller, T., Melloni, E. M. T., Mitchell, P. B., Nabulsi, L., Nenadic, I., Opel, N., Ophoff, R. A., Overs, B. J., Pfarr, J.-K., Pineda-Zapata, J. A., Pomarol-Clotet, E., Raduà, J. & Repple, J., 16-Dec-2021, (E-pub ahead of print) In: *Bipolar Disorders*. 12 p.

#### **Chronotype changes with age; seven-year follow-up from the Netherlands study of depression and anxiety cohort**

Druiven, S. J. M., Riese, H., Kamphuis, J., Haarman, B. C. M., Antypa, N., Penninx, B. W. J. H., Schoevers, R. A. & Meesters, Y., 1-Dec-2021, In: *Journal of Affective Disorders*. 295, p. 1118-1121 4 p.

#### **Increased prevalence of metabolic syndrome in patients with bipolar disorder compared to a selected control group-a Northern Netherlands LifeLines population cohort study**

Schuster, M. P., Borkent, J., Chrispijn, M., Ioannou, M., Doornbos, B., Burger, H. & Haarman, B. C. M., 1-Dec-2021, In: *Journal of Affective Disorders*. 295, p. 1161-1168 8 p.

#### **Applicability, potential and limitations of TSPO PET imaging as a clinical immunopsychiatry biomarker**

De Picker, L. J. & Haarman, B. C. M., Dec-2021, In: *European Journal of Nuclear Medicine and Molecular Imaging*. 49, 1, p. 164-173 10 p.

#### **The efficacy of smartphone-based interventions in bipolar disorder: systematic-review and meta-analyses. A position paper from the ISBD Big Data Task-Force**

Anmella, G., Hidalgo-Mazzei, D., Faurholt-Jepsen, M., Passos, I., Ballester, P., Kapczinski, F., Mwangi, B., Birmaher, B., Brietzke, E., Hajek, T., Lopez-Jaramillo, C., Mansur, R., Alda, M., Haarman, B., Isometsa, E., Lam, R., McIntyre, R., Minuzzi, L., Yatham, L., Duffy, A. & 5 others, Hafeman, D., Goldstein, T., Meier, S., Kessing, L. & Vieta, E., Dec-2021, In: *European Neuropsychopharmacology*. 53, p. S65-S66 2 p.

#### **Bidirectional associations between treatment-resistant depression and general medical conditions**

Madsen, K. B., Momen, N. C., Petersen, L. V., Plana-Ripoll, O., Haarman, B. C. M., Drexhage, H., Mortensen, P. B., McGrath, J. J. & Munk-Olsen, T., Oct-2021, In: *European Neuropsychopharmacology*. 51, p. 7-19 13 p.

#### **Variations in seasonal solar insolation are associated with a history of suicide attempts in bipolar I disorder**

Bauer, M., Glenn, T., Achtyes, E. D., Alda, M., Agaoglu, E., Altinbaş, K., Andreassen, O. A., Angelopoulos, E., Arda, R., Vares, E. A., Aydin, M., Ayhan, Y., Baethge, C., Bauer, R., Baune, B. T., Balaban, C., Becerra-Palars, C., Behere, A. P., Behere, P. B., Belete, H. & 144 others, Belete, T., Belizario, G. O., Bellivier, F., Belmaker, R. H., Benedetti, F., Berk, M., Bersudsky, Y., Bicakci, Ş., Birabwa-Oketcho, H., Bjella, T. D., Brady, C., Cabrera, J., Cappucciati, M., Castro, A. M. P., Chen, W. L., Cheung, E. Y. W., Chiesa, S., Crowe, M., Cuomo, A., Dallaspezia, S., Del Zompo, M., Desai, P., Dodd, S., Donix, M., Etain, B., Fagiolini, A., Fellendorf, F. T., Ferenczajtjn-Rochowiak, E., Fiedorowicz, J. G., Fountoulakis, K. N., Frye, M. A., Geoffroy, P. A., Gonzalez-Pinto, A., Gottlieb, J. F., Grof, P., Haarman, B. C. M., Harima, H., Hasse-Sousa, M., Henry, C., Høffding, L., Houenou, J., Imbesi, M., Isometsä, E. T., Ivkovic, M., Janno, S., Johnsen, S., Kapczinski, F., Karakatsoulis, G. N., Kardell, M., Kessing, L. V., Kim, S. J., König, B., Kot, T. L., Koval, M., Kunz, M., Lafer, B., Landén, M., Larsen, E. R., Lenger, M., Lewitzka, U., Licht, R. W., Lopez-Jaramillo, C., MacKenzie, A., Madsen, H. Ø., Madsen, S. A. K. A., Mahadevan, J., Mahardika, A., Manchia, M., Marsh, W., Martinez-Cengotitabengoa, M., Martiny, K., Mashima, Y., McLoughlin, D. M., Meesters, Y., Melle, I., Meza-Urzúa, F., Ming, M. Y., Monteith, S., Moorthy, M., Morken, G., Mosca, E., Mozzhegorov, A. A., Munoz, R., Mythri, S. V., Nacef, F., Nadella, R. K., Nakanotani, T., Nielsen, R. E., O'Donovan, C., Omrani, A., Osher, Y., Ouali, U., Pantovic-Stefanovic, M., Pariwatharakul, P., Petite, J., Pfennig, A., Ruiz, Y. P., Pilhatsch, M., Pinna, M., Pompili, M., Porter, R., Quiroz, D., Rabelo-da-Ponte, F. D., Ramesar, R., Rasgon, N., Rattapha, W., Ratzenhofer, M., Redahan, M., Reddy, M. S., Reif, A., Reininghaus, E. Z., Richards, J. G., Ritter, P., Rybakowski, J. K., Sathyaputri, L., Scippa, A. M., Simhandl, C., Severus, E., Smith, D., Smith, J., Stackhouse, P. W., Stein, D. J., Stilwell, K., Streljevič, S., Su, K. P., Subramaniam, M., Sulaiman, A. H., Suominen, K., Tanra, A. J., Tatebayashi, Y., Teh, W. L., Tondo, L., Torrent, C., Tuinstra, D., Uchida, T., Vaaler, A. E., Veeh, J., Vieta, E., Viswanath, B., Yoldi-Negrete, M., Yalcinkaya, O. K., Young, A. H., Zgueb, Y. & Whybrow, P. C., 1-Sep-2021, In: *International Journal of Bipolar Disorders*. 9, 1, 14 p., 26.

#### **Brain aging in major depressive disorder: results from the ENIGMA major depressive disorder working group**

Han, L. K. M., Dinga, R., Hahn, T., Ching, C. R. K., Eyler, L. T., Aftanas, L., Aghajani, M., Aleman, A., Baune, B. T., Berger, K., Brak, I., Filho, G. B., Carballedo, A., Connolly, C. G., Couvy-Duchesne, B., Cullen, K. R., Dannlowski, U., Davey, C. G., Dima, D., Duran, F. L. S. & 126 others, Enneking, V., Filimonova, E., Frenzel, S., Frodl, T., Fu, C. H. Y., Godlewska, B. R., Gotlib, I. H., Grabe, H. J., Greenewold, N. A., Grotegerd, D., Gruber, O., Hall, G. B., Harrison, B. J., Hatton, S. N., Hermesdorf, M., Hickie, I. B., Ho, T. C., Hosten, N., Jansen, A., Kähler, C., Kircher, T., Klimes-Dougan, B., Krämer, B., Krug, A., Lagopoulos, J., Leenings, R., MacMaster, F. P., MacQueen, G., McIntosh, A., McLellan, Q., McMahon, K. L., Medland, S. E., Mueller, B. A., Mwangi, B., Osipov, E., Portella, M. J., Pozzi, E., Reneman, L., Repple, J., Rosa, P. G. P., Sacchet, M. D., Sämann, P. G., Schnell, K., Schranz, A., Simulionyte, E., Soares, J. C., Sommer, J., Stein, D. J., Steinsträter, O., Strike, L. T., Thomopoulos, S. I., van Tol, M. J., Veer, I. M., Vermeiren, R. R. J. M., Walter, H. H.

, van der Wee, N. J. A., van der Werff, S. J. A., Whalley, H., Winter, N. R., Wittfeld, K., Wright, M. J., Wu, M. J., Völzke, H., Yang, T. T., Zannias, V., de Zubicaray, G. I., Zunta-Soares, G. B., Abé, C., Alda, M., Andreassen, O. A., Bøen, E., Bonnín, C. M., Canales-Rodríguez, E. J., Cannon, D., Caseras, X., Chaim-Avancini, T. M., Elvsåshagen, T., Favre, P., Foley, S. F., Fullerton, J. M., Goikolea, J. M., Haarman, B. C. M., Hajek, T., Henry, C., Houenou, J., Howells, F. M., Ingvar, M., Kuplicki, R., Lafer, B., Landén, M., Machado-Vieira, R., Malt, U. F., McDonald, C., Mitchell, P. B., Nabulsi, L., Otaduy, M. C. G., Overs, B. J., Polosan, M., Pomarol-Clotet, E., Radua, J., Rive, M. M., Roberts, G., Ruhe, H. G., Salvador, R., Sarró, S., Satterthwaite, T. D., Savitz, J., Schene, A. H., Schofield, P. R., Serpa, M. H., Sim, K., Soeiro-de-Souza, M. G., Sutherland, A. N., Temmingh, H. S., Timmons, G. M., Uhlmann, A., Vieta, E., Wolf, D. H., Zanetti, M. V., Jahanshad, N., Thompson, P. M., Veltman, D. J., Penninx, B. W. J. H., Marquand, A. F., Cole, J. H. & Schmaal, L., Sep-2021, In: *Molecular Psychiatry*. 26, p. 5124-5139 16 p.

#### **Anticipating manic and depressive shifts in patients with bipolar disorder using early warning signals**

Bos, F., Schreuder, M., George, S., Doornbos, B., Bruggeman, R., van der Krieke, L., Haarman, B., Wichers, M. & Snippe, E., Jun-2021, In: *Bipolar Disorders*. 23, p. 53-54 2 p.

#### **Association between body mass index and subcortical brain volumes in bipolar disorders-ENIGMA study in 2735 individuals**

for the ENIGMA Bipolar Disorders Working Group, McWhinney, S. R., Abé, C., Alda, M., Benedetti, F., Bøen, E., del Mar Bonnín, C., Borgers, T., Brosch, K., Canales-Rodríguez, E. J., Cannon, D. M., Dannlowski, U., Díaz-Zuluaga, A. M., Elvsåshagen, T., Eyer, L. T., Fullerton, J. M., Goikolea, J. M., Goltermann, J., Grotegerd, D., Haarman, B. C. M. & 31 others, Hahn, T., Howells, F. M., Ingvar, M., Kircher, T. T. J., Krug, A., Kuplicki, R. T., Landén, M., Lemke, H., Liberg, B., Lopez-Jaramillo, C., Malt, U. F., Martyn, F. M., Mazza, E., McDonald, C., McPhilemy, G., Meier, S., Meinert, S., Meller, T., Melloni, E. M. T., Mitchell, P. B., Nabulsi, L., Nenadic, I., Opel, N., Ophoff, R. A., Overs, B. J., Pfarr, J. K., Pineda-Zapata, J. A., Pomarol-Clotet, E., Raduà, J., Repple, J. & Richter, M., 16-Apr-2021, In: *Molecular Psychiatry*. p. 1-14 14 p.

#### **Prospective early warning signals to detect transitions to manic and depressive episodes in bipolar disorder**

Bos, F., Schreuder, M., Doornbos, B., Snippe, E., Bruggeman, R., Van der Krieke, L., Haarman, B., Wichers, M. & George, S., Apr-2021, In: *European Psychiatry*. 64, p. S78-S79 2 p.

#### **Towards precision medicine: What are the stratification hypotheses to identify homogeneous inflammatory subgroups**

Ioannou, M., Foiselle, M., Mallet, J., Stam, E. L., Godin, O., Dubertret, C., Terro, E., Sommer, I. E. C., Haarman, B. C. M., Leboyer, M. & Schoevers, R. A., Apr-2021, In: *European Neuropsychopharmacology*. 45, p. 108-121 14 p.

#### **Virtual Histology of Cortical Thickness and Shared Neurobiology in 6 Psychiatric Disorders**

Writing Committee for the Attention-Deficit/Hyperactivity Disorder, Jan-2021, In: *Jama psychiatry*. 78, 1, p. 47-63 17 p.

#### **The aberrant immune system in bipolar disorder**

Haarman, B., Stam, E., Borkent, J., Ioannou, M. & Drexhage, H. A., 2021, *Immuno-psychiatry*. Berk, M., Leboyer, M. & Sommer, I. (eds.). 1 ed. Springer, p. 241-257 17 p.

#### **Elektroconvulsiotherapie bij een 12-jarige jongen met een ernstige depressie**

Smith-Apeldoorn, S. Y., Haarman, B. C. M. & Schuppert, H. M., Dec-2020, In: *Tijdschrift voor Psychiatrie*. 62, 12, p. 1080-1085 6 p.

#### **In vivo hippocampal subfield volumes in bipolar disorder-A mega-analysis from The Enhancing Neuro Imaging Genetics through Meta-Analysis Bipolar Disorder Working Group**

ENIGMA Bipolar Disorder Working Gr, Haukvik, U. K., Gurholt, T. P., Nerland, S., Elvsashagen, T., Akudjedu, T. N., Alda, M., Alnaes, D., Alonso-Lana, S., Bauer, J., Baune, B. T., Benedetti, F., Berk, M., Bettella, F., Boen, E., Bonnín, C. M., Brambilla, P., Canales-Rodríguez, E. J., Cannon, D. M., Caseras, X. & 31 others, Dandash, O., Dannlowski, U., Delvecchio, G., Diaz-Zuluaga, A. M., Erp, T. G. M., Fatjo-Vilas, M., Foley, S. F., Foerster, K., Fullerton, J. M., Goikolea, J. M., Grotegerd, D., Gruber, O., Haarman, B. C. M., Haatveit, B., Hajek, T., Hallahan, B., Harris, M., Hawkins, E. L., Howells, F. M., Huelsmann, C., Jahanshad, N., Jorgensen, K. N., Kircher, T., Kraemer, B., Krug, A., Kuplicki, R., Lagerberg, T., Lancaster, T. M., Lenroot, R. K., Lonning, V. & Ruhe, H. G., 19-Oct-2020, In: *Human brain mapping*. p. 1-14 14 p.

#### **The Expression of Senescence, Inflammaging and Inflammatory Pyroptosis Genes in Monocytes of Major Depressed Patients. A Staging Immune Model of Major Depression Driven by Diagnosis, Sex, Adiposity and Childhood Adversity**

Simon, M. S., Schiweck, C., Arteaga-Henriques, G., Poletti, S., Op de Beeck, G., Haarman, B., Dik, W. A., Schwarz, M., Vrieze, E., Mikova, O., Joergens, S., Musil, R., Claes, S., Baune, B. T., Leboyer, M., Benedetti, F., Furlan, R., Berghmans,

R., de Wit, H., Wijckhuijs, A. & 3 others, Arolt, V., Mueller, N. & Drexhage, H. A., 17-Sep-2020, In: SSRN Electronic Journal.

**Dysregulation of synaptic pruning as a possible link between intestinal microbiota dysbiosis and neuropsychiatric disorders**  
Eltokhi, A., Janmaat, I. E., Genedi, M., Haarman, B. C. M. & Sommer, I. E. C., Jul-2020, In: Journal of Neuroscience Research. 98, 7, p. 1335-1369 35 p.

**The gut-brain axis in bipolar disorder and schizophrenia – a target for precision psychiatry?**  
Haarman, B., El Aidy, S., van Hemert, S., Fu, J., Festen, N. & Sommer, I. E. C., Jun-2020.

**The impact of intestinal permeability and intestinal microbiome on cerebral immunological activity and myelination in bipolar disorder**  
Haarman, B., Ioannou, M., Borkent, J., Doorduyn, J., Fu, J., El Aidy, S. & Sommer, I. E. C., Jun-2020.

**The impact of intestinal permeability and intestinal microbiome on cerebral immunological activity and myelination in bipolar disorder**  
Haarman, B. C. M., Ioannou, M., Borkent, J., Doorduyn, J., Fu, J., El Aidy, S. & Sommer, I. E. C., Jun-2020, In: Bipolar Disorders. 22, p. 84-85 2 p.

**THE RELATIONSHIP OF INTESTINAL PERMEABILITY FACTORS WITH SOCIODEMOGRAPHIC AND PHYSICAL HEALTH FACTORS AND PANSS SCORES IN SCHIZOPHRENIA PATIENTS AND HEALTHY CONTROLS**  
Borkent, J., Sommer, I. E. C. & Haarman, B. C. M., Apr-2020, In: Schizophrenia Bulletin. 46, p. S235-S235 1 p.

#### **Immuunsysteem**

Haarman, B., Schiweck, C., Dalm, V. A. & Drexhage, H. A., Mar-2020, *Leerboek neurowetenschappen voor de klinische psychiatrie*. Van den Heuvel, O., Van der Werf, Y., Schmand, B. & Sabbe, B. (eds.). Boom, p. 95-104 10 p.

#### **Protocol voor lichttherapie bij bipolaire stoornis**

Schulte, P. F. J., Kaarsgaren, L., Eldering, M. J., Haarman, B., Postma, D., Riemersma-Van Der Lek, R. F., Rops, L. & Stevens, A. W. M. M., Mar-2020, In: Tijdschrift voor Psychiatrie. 62, 3, p. 223-228 6 p.

**Stability of chronotype over a 7-year follow-up period and its association with severity of depressive and anxiety symptoms**  
Druiven, S. J. M., Hovenkamp-Hermelink, J. H. M., Knapen, S. E., Kamphuis, J., Haarman, B. C. M., Penninx, B. W. J. H., Antypa, N., Meesters, Y., Schoevers, R. A. & Riese, H., 17-Feb-2020, In: Depression and Anxiety. 37, 5, p. 466-474 9 p.

#### **The chronotherapeutic treatment of bipolar disorders: A systematic review and practice recommendations from the ISBD task force on chronotherapy and chronobiology**

Gottlieb, J. F., Benedetti, F., Geoffroy, P. A., Henriksen, T. E. G., Lam, R. W., Murray, G., Phelps, J., Sit, D., Swartz, H. A., Crowe, M., Etain, B., Frank, E., Goel, N., Haarman, B. C. M., Inder, M., Kallestad, H., Jae Kim, S., Martiny, K., Meesters, Y., Porter, R. & 7 others, Riemersma-van der Lek, R. F., Ritter, P. S., Schulte, P. F. J., Scott, J., Wu, J. C., Yu, X. & Chen, S., 1-Dec-2019, In: Bipolar Disorders. 21, 8, p. 741-773 33 p.

#### **Dysregulation of the gut-brain axis in schizophrenia and bipolar disorder: probiotic supplementation as a supportive treatment in psychiatric disorders**

Genedi, M., Janmaat, I. E., Haarman, B. B. C. M. & Sommer, I. E. C., May-2019, In: Current opinion in psychiatry. 32, 3, p. 185-195 11 p.

#### **CAN YOU HEAR THAT SONG NOW? - RESULTS, PLANS, AND THE WHY BEHIND THE STUDY OF CREATIVITY, SCHIZOTYPY, AND HALLUCINATION PRONENESS IN MUSICAL HALLUCINATIONS**

Donantueno, C., Curcic-Blake, B., Marsman, J. B., Moseley, P., Haarman, B. C. M. & Aleman, A., Apr-2019, In: Schizophrenia Bulletin. 45, p. S324 1 p.

#### **Combined sleep deprivation and light therapy: Clinical treatment outcomes in patients with complex unipolar and bipolar depression**

Sikkens, D., Riemersma-Van der Lek, R. F., Meesters, Y., Schoevers, R. A. & Haarman, B. C. M., 1-Mar-2019, In: Journal of Affective Disorders. 246, p. 727-730 4 p.

**LPS binding protein (LBP) as marker of intestinal permeability to predict the effect of treatment with probiotics?**

Haarman, B. C. M., Aidy, S. E., vanHemert, S., Fu, J., Festen, E. A. M. & Sommer, I. E., Mar-2019, p. 73-74. 2 p.

**Negative association between the neurotoxic 3-OH-kynurenine to kynurenine ratio and fractional anisotropy in euthymic bipolar I disorder - A tract-based spatial statistics study**

Haarman, B. C. M., Cerliani, L., Schwarz, M., Riemersma-Van der Lek, R. F., Burger, H., Drexhage, H. A., Nolen, W. A. & Schoevers, R. A., Mar-2019, p. 29-29. 1 p.

**Aspirin for recurrence prevention in bipolar disorder-Promising, yet clinically understudied?**

Haarman, B. C. M., de Boer, M. K., van der Gaag, C. M., Burger, H., Nolen, W. A. & Schoevers, R. A., Feb-2019, In: *Bipolar Disorders*. 21, 1, p. 13-15 3 p.

**Consensusverklaring voor de toepassing van rTMS bij depressie in Nederland en België**

Arns, M., Bervoets, C., van Eijndhoven, P., Baeken, C., van den Heuvel, O. A., Aleman, A., Schutter, D. J. L. G., van der Werf, Y., van Belkum, S., Sommer, I. E., van Ruth, R., Haarman, B., Spijker, J. & Sack, A. T., 2019, In: *Tijdschrift voor Psychiatrie*. 61, 6, p. 411-420 10 p.

**Machine learning and big data analytics in bipolar disorder: A position paper from the International Society for Bipolar Disorders Big Data Task Force**

Passos, I. C., Ballester, P. L., Barros, R. C., Librenza-Garcia, D., Mwangi, B., Birmaher, B., Brietzke, E., Hajek, T., Lopez Jaramillo, C., Mansur, R. B., Alda, M., Haarman, B. C. M., Isometsa, E., Lam, R. W., McIntyre, R. S., Minuzzi, L., Kessing, L. V., Yatham, L. N., Duffy, A. & Kapczinski, F., 2019, In: *Bipolar Disorders*. 21, 7, p. 582-594 13 p.

**The circulating levels of CD4+t helper cells are higher in bipolar disorder as compared to major depressive disorder**

Becking, K., Haarman, B. C. M., Grosse, L., Nolen, W. A., Claes, S., Arolt, V., Schoevers, R. A. & Drexhage, H. A., 15-Jun-2018, In: *Journal of Neuroimmunology*. 319, p. 28-36 9 p.

**Juist doorgaan met lithium bij beginnende nierinsufficiëntie**

Haarman, B. & Van Der Gaag, C., 1-Apr-2018, In: *Tijdschrift voor Psychiatrie*. 60, 4, p. 278 1 p.

**Juist doorgaan met lithium bij beginnende nierinsufficiëntie**

Haarman, B. & van der Gaag, C., Apr-2018, In: *Tijdschrift voor Psychiatrie*. 2018, 4, p. 278

**Negative association between the neurotoxic 3-OH-kynurenine to kynurenine ratio and fractional anisotropy in euthymic bipolar I disorder - a tract-based spatial statistics study**

Haarman, B. C. M., Cerliani, L., Schwarz, M., Riemersma-Van der Lek, R. F., Burger, H., Drexhage, H. A., Nolen, W. A. & Schoevers, R. A., Mar-2018, In: *Bipolar Disorders*. 20, p. 73-74 2 p.

**Het ontregelde brein: Consequenties van ruimtelijke en temporele complexiteit van het brein voor pathofysiologie en diagnostiek van de bipolaire stoornis**

Haarman, B. C. M., Burger, H., Drexhage, H. A., Nolen, W. A. & Riemersma-Van der Lek, R. F., Feb-2018, In: *Tijdschrift voor Psychiatrie*. 60, 2, p. 105-113 9 p.

**Actigraphy in Combined Chronotherapy to Determine Predictors of Response in the Treatment of Depressive Disorder**

Druiven, S. J. M., Kamphuis, J., Haarman, B. C. M., Meesters, Y., Schoevers, R. A. & Riese, H., 2018, In: *Neuropsychobiology*. 76, 1, p. 15 1 p.

**Acute Psychiatry**

Haarman, B. & van der Gaag, C., 2018, *Leerboek acute geneeskunde*. Bohn, Stafleu, Van Loghum

**Repetitieve transcraniale magnetische stimulatie bij therapieresistente depressie; voorstel voor een behandelprotocol**

van Belkum, S. M., de Boer, M. K., Taams, G-J., Schutter, D. J. L. G., Aleman, A., Schoevers, R. A. & Haarman, B. C. M., 2018, In: *Tijdschrift voor Psychiatrie*. 60, 11, p. 766-773 8 p.

**Corrigendum to: Volume, metabolites and neuroinflammation of the hippocampus in bipolar disorder-A combined magnetic resonance imaging and positron emission tomography study [Brain Behav. Immun. (2015)] (vol 61,pg 387, 2017)**

Haarman, B. C. M. B., Burger, H., Doorduyn, J., Renken, R. J., Sibeijn-Kuiper, A. J., Marsman, J-B. C., de Vries, E. F. J., de Groot, J. C., Drexhage, H. A., Mendes, R., Nolen, W. A. & Riemersma-Van der Lek, R. F., Mar-2017, In: Brain, Behavior, and Immunity. 61, p. 387-388 2 p.

**The Dysregulated Brain: A psychoimmunological approach to bipolar disorder**

Haarman, B. C. M., 2017, [Groningen]: University of Groningen. 255 p.

**Veroorzaken antidepressiva dementie?**

Haarman, B. & de Boer, M. K., 2017

**The dysregulated brain: consequences of spatial and temporal brain complexity for bipolar disorder pathophysiology and diagnosis**

Haarman, B. C. M. B., Riemersma-Van der Lek, R. F., Burger, H., Drexhage, H. A. & Nolen, W. A., Dec-2016, In: Bipolar Disorders. 18, 8, p. 696-701 6 p.

**Coping with a life event in bipolar disorder: ambulatory measurement, signalling and early treatment**

Knapen, S. E., Riemersma-van der Lek, R. F., Haarman, B. C. M. & Schoevers, R. A., 13-Oct-2016, In: BMJ Case Reports. 2016, p. 1-3 3 p.

**Diffusion tensor imaging in euthymic bipolar disorder - A tract-based spatial statistics study**

Haarman, B. C. M. B., Riemersma-Van der Lek, R. F., Burger, H., de Groot, J. C., Drexhage, H. A., Nolen, W. A. & Cerliani, L., Oct-2016, In: Journal of Affective Disorders. 203, p. 281-291 11 p.

**Volume, metabolites and neuroinflammation of the hippocampus in bipolar disorder - A combined magnetic resonance imaging and positron emission tomography study**

Haarman, B. C. M. B., Burger, H., Doorduyn, J., Renken, R. J., Sibeijn-Kuiper, A. J., Marsman, J-B. C., Vries, de, E., de Groot, J. C., Drexhage, H. A., Mendes, R., Nolen, W. A. & Riemersma-Van der Lek, R. F., Aug-2016, In: Brain behavior and immunity. 56, p. 21-33 13 p.

**Does CRP predict outcome in bipolar disorder in regular outpatient care?**

Balukova, S. M., Haarman, B. C. M., Riemersma-van der Lek, R. F. & Schoevers, R. A., 18-Jul-2016, In: International Journal of Bipolar Disorders. 4, 14, 9 p., 14.

**Volume, metabolites and neuroinflammation of the hippocampus in bipolar disorder**

Haarman, B. C. M., Riemersma-Van der Lek, R. F., Burger, H., Doorduyn, J., Drexhage, H. A. & Nolen, W. A., Jul-2016, In: Bipolar Disorders. 18, p. 26-27 3 p.

**Inflammatory monocyte gene expression: Trait or state marker in bipolar disorder?**

Becking, K., Haarman, B. C. M., Riemersma -van der Lek, R. F., Grosse, L., Nolen, W. A., Claes, S., Drexhage, H. A. & Schoevers, R. A., 17-Sep-2015, In: International Journal of Bipolar Disorders. 3, 20, 7 p., 20.

**Neuroimaging and illness progression**

Frey, B. N., Minuzzi, L., Haarman, B. & Sassi, R., 11-Jun-2015, *Staging and Neuroprogression in Bipolar Disorder*. Kapczynski, F., Vieta, E., Magalhães, P. V. S. & Berk, M. (eds.). Oxford University Press

**Feature-expression heat maps - A new visual method to explore complex associations between two variable sets**

Haarman, B. C. M. B., Riemersma-Van der Lek, R. F., Nolen, W. A., Mendes, R., Drexhage, H. A. & Burger, H., Feb-2015, In: Journal of Biomedical Informatics. 53, p. 156-161 6 p.

**Antidepressiva**

Ruhe, E., Haarman, B., de Boer, M. K., Batelaan, N. M. & Birkenhager, T. K., 2015, *Molemans praktische psychofarmacologie*. Prelum Uitgevers, 421 p.

### **Neuroinflammation in bipolar disorder: A [C-11]-(R)-PK11195 positron emission tomography study**

Haarman, B. C. M., Riemersma -van der Lek, R., de Groot, J. C., Ruhe, E., Klein, H. C., Zandstra, T. E., Burger, H., Schoevers, R. A., de Vries, E. F. J., Drexhage, H. A., Nolen, W. A. & Doorduyn, J., Aug-2014, In: Brain, Behavior, and Immunity. 40, p. 219-225 7 p.

### **Neuroinflammation in bipolar disorder? An [11c] PK11195 PET study in euthymic patients**

Haarman, B., Doorduyn, J., Riemersma-van der Lek, R. F., Zandstra, T. E., Drexhage, H. A. & Nolen, W. A., Mar-2014, In: Bipolar Disorders. 16, p. 42-42 1 p.

### **Relationship between clinical features and inflammation-related monocyte gene expression in bipolar disorder - towards a better understanding of psychoimmunological interactions**

Haarman, B. B. C. M., Riemersma-Van der Lek, R. F., Burger, H., Netkova, M., Drexhage, R. C., Bootsman, F., Mesman, E., Hillegers, M. H. J., Spijker, A. T., Hoencamp, E., Drexhage, H. A. & Nolen, W. A., Mar-2014, In: Bipolar Disorders. 16, 2, p. 137-150 14 p.

### **Bipolar Disorders**

Haarman, B., Riemersma, R., Ruhe, H., de Groot, J. C., Nolen, W. & Doorduyn, J., 2014, *PET and SPECT in Psychiatry*. Dierckx, R. A. J. O., Otte, A., de Vries, E. F. J., van Waarde, A. & den Boer, J. A. (eds.). Springer, p. 223-254 32 p.

### **The association between immune activation and manic symptoms in patients with a depressive disorder**

Becking, K., Boschloo, L., Vogelzangs, N., Haarman, B. C. M., Riemersma-van der Lek, R., Penninx, B. W. J. H. & Schoevers, R. A., 22-Oct-2013, In: Translational Psychiatry. 3, 9 p., e314.

### **Tinnitus in vascular conflict of the eighth cranial nerve: a surgical pathophysiological approach to ABR changes**

De Ridder, D., Heijneman, K., Haarman, B. & van der Loo, E., 2007, *TINNITUS: PATHOPHYSIOLOGY AND TREATMENT*. Langguth, B., Hajak, G., Kleinjung, T., Cacace, A. & Moller, AR. (eds.). AMSTERDAM: Elsevier, p. 401-411 11 p. (Progress in Brain Research; vol. 166).

## **Activities**

### **Neurobiologische aspecten van de bipolaire stoornis**

Benno Haarman (Speaker)  
6-Oct-2020

### **The gut-brain axis in bipolar disorder and schizophrenia – a target for precision psychiatry?**

Benno Haarman (Speaker)  
17-Jun-2020 → 18-Jun-2020

### **Gut-brain-axis in bipolar disorder**

Benno Haarman (Speaker)  
6-Feb-2020

### **Global Aging & Geriatric Experiments in Bipolar Disorder (GAGE-BD) (External organisation)**

Benno Haarman (Member)  
2020 → ...

### **Bipolaire stoornis en inflammatie**

Benno Haarman (Speaker)  
21-Nov-2019

### **Immune dysregulation in bipolar disorder**

Benno Haarman (Speaker)  
Nov-2019



**NNNSA Symposium**

Benno Haarman (Member of organising committee)

13-Sep-2019

**Spreker bij de parallelsessies ronde 1 'Probiotica in de behandeling van bipolaire en psychotische stoornissen'**

Benno Haarman (Invited speaker)

13-Sep-2019

**Negative association between the neurotoxic 3-OH-kynurenine to kynurenine ratio and fractional anisotropy in euthymic bipolar I disorder - A tract-based spatial statistics study**

Benno Haarman (Speaker)

Jun-2019

**Negative association between the neurotoxic 3-OH-kynurenine to kynurenine ratio and fractional anisotropy in euthymic bipolar I disorder - A tract-based spatial statistics study**

Benno Haarman (Speaker)

Mar-2019

**Beïnvloeding van het immuunsysteem als behandeling bij de bipolaire stoornis**

Benno Haarman (Speaker)

7-Feb-2019

**Bipolaire stoornis en inflammatie**

Benno Haarman (Speaker)

22-Nov-2018

**Exploring the underlying pathophysiology of unipolar and bipolar disorder.**

Robert A. Schoevers (Supervisor), Bartholomeus Haarman (Co-supervisor) & Jon D. Laman (Examiner)

6-Jun-2018

**Gecombineerde slaapdeprivatie en lichttherapie: effectiviteit in de klinische praktijk bij de behandeling van een depressieve stoornis en bipolaire stoornis**

Benno Haarman (Speaker)

11-Apr-2018

**Psycho- en neurostimulerendetechnieken in depressiebehandeling**

Benno Haarman (Speaker)

16-Mar-2018

**International Society for Bipolar Disorders (External organisation)**

Benno Haarman (Member)

2018 → ...

**International Society for Bipolar Disorders (External organisation)**

Benno Haarman (Member)

2018 → ...

**Negative association between the neurotoxic 3-OH-kynurenine to kynurenine ratio and fractional anisotropy in euthymic bipolar I disorder - A tract-based spatial statistics study.**

Benno Haarman (Speaker)

2018

**Bipolaire stoornis en inflammatie**

Benno Haarman (Speaker)

23-Nov-2017

**19th Annual Conference of the International Society for Bipolar Disorders**

Benno Haarman (Speaker)

4-May-2017 → 7-May-2017

**ENIGMA Consortium (External organisation)**

Benno Haarman (Member)

2017 → ...

**European College of NeuroPsychopharmacology (External organisation)**

Benno Haarman (Member)

2017 → ...

**Kenniscentrum Bipolaire Stoornissen (External organisation)**

Benno Haarman (Member)

2017 → ...

**13e Najaarssymposium Bipolaire Stoornissen**

Benno Haarman (Speaker)

22-Nov-2016

**18th Annual Conference of the International-Society-for-Bipolar-Disorders / 8th Biennial Conference of the International-Society-for-Affective-Disorders**

Benno Haarman (Speaker)

Jul-2016

**17th Annual Conference of the International Society for Bipolar Disorders**

Benno Haarman (Contributor)

Jun-2015

**27th ECNP Congress**

Benno Haarman (Speaker)

Oct-2014

**16th Annual Conference of the International-Society-for-Bipolar-Disorders**

Benno Haarman (Speaker)

Mar-2014

**Najaarssymposium Bipolaire Stoornissen**

Benno Haarman (Speaker)

24-Sep-2013

**10th International Conference on Bipolar Disorder of the International-Society-for-Bipolar-Disorders**

Benno Haarman (Speaker)

Jun-2013

**Voorjaarscongres Nederlandse Vereniging van Psychiatrie 'Diegenen omgeven'**

Benno Haarman (Speaker)

Apr-2013

**5th Biennial Conference of the International-Society-for-Bipolar-Disorders**

Benno Haarman (Contributor)

Mar-2012

### **International Society for Bipolar Disorders (External organisation)**

Benno Haarman (Member)

2012 → ...

## **Prizes**

### **Jury Publication Prize Residents Psychiatry (nomination, supervisor)**

Haarman, Benno (Recipient), 2020

### **Samuel Gershon Award**

Haarman, Benno (Recipient), Jun-2013

### **Van Swinderen Prize (nomination)**

Haarman, Benno (Recipient), 19-Dec-2017

### **Willem Nolen prize for bipolar disorder 2018 (nomination)**

Haarman, Benno (Recipient), 11-Oct-2018

### **Willem Nolen prize for bipolar disorder (nomination)**

Haarman, Benno (Recipient), 2017

## **Press/Media**

### **Article "Ontsteking in de hersenen speelt rol bij bipolariteit"**

Benno Haarman

01/05/2017

1 Media contribution

### **Dutch national news radio item "Ontstekingsreacties in de hersenen van mensen met bipolaire stoornis" (NPO Radio 1 Nieuws & Co)**

Benno Haarman

29/03/2017

1 Media contribution

### **Hoge pieken en diepe dalen**

Benno Haarman

04/02/2020

1 item of Media coverage

### **Interview "Kun je psychiatrische stoornissen vaststellen met een hersenscan?"**

Benno Haarman

05/04/2017

1 Media contribution

### **#jesuisdepri aftertalk**

Benno Haarman

17/04/2018

1 Media contribution

### **Mensen met bipolaire stoornis hebben veel vaker stofwisselingsklachten**

Benno Haarman

09/02/2022

1 item of Media coverage

**Onderzoek UMCG: Stofwisselingsklachten komen twee keer zoveel voor bij patiënten met een bipolaire stoornis**

Benno Haarman

03/02/2022

1 item of Media coverage

**Patiënten met bipolaire stoornis hebben dubbel zoveel stofwisselingsklachten**

Benno Haarman

02/02/2022

1 item of Media coverage

**Shocktherapie**

Benno Haarman

01/01/2019

1 Media contribution

**Twee keer zo vaak stofwisselingsklachten bij een bipolaire stoornis**

Benno Haarman

06/02/2022

1 item of Media coverage

**UMCG: bipolaire patiënt vaker verhoogde bloeddruk en cholesterol**

Benno Haarman

02/02/2022

2 items of Media coverage

**UMCG: Patiënten met bipolaire stoornis hebben twee keer zoveel stofwisselingsklachten**

Benno Haarman

03/02/2022

1 item of Media coverage

**UMC Groningen: stofwisselingsklachten komen twee keer zoveel voor bij patiënten met een bipolaire stoornis**

Benno Haarman

02/02/2022

1 item of Media coverage

**Awards**