Best of 2021: Research that Advanced Psychiatry and Changed our Practice

Forensic Psychiatry

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5 papers, 5 topics

- New risk assessment tools
- Prevalence of coercive measures in Germany
- Treatment
  - Psychological interventions to reduce reoffending
  - Antipsychotic medication and reoffending
- Future methods: Virtual reality

Risk assessment: What we know so far

- There is an association between mental disorders and violence (odds 2 – 4 after adjustment for confounding factors; Whiting et al., 2020)
- Risk assessment and risk management are important tasks of forensic psychiatrists
- There is a myriad of risk assessment instruments available based on static and dynamic risk factors
- Recent review on prediction of violence in inpatient forensic settings (Ramesh et al., 2018)
  - 52 studies included, data on 6840 individuals, 9 instruments
  - Better accuracy for imminent tools compared with longer-term
  - No tool clearly superior
  - Longer-term accuracy moderate to poor (AUC 0.68)
- HCR20 most commonly used

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The need for new instruments

OXRISK

OxRisk Home

Recidivism in Prisoners

Mental Illness & Violence

Mental Illness & Suicide

Forensic Psychiatry & Violence

Forensic Psychiatry Home

New OxRisk tool validations and feasibility studies

OxSelfHarm (Trial)

OxSuicide (Trial)

Reoffending after sexual

OxRisk (@Oxrisk) is a project by the **Forensic Psychiatry and Psychology** group at the University of Oxford.

We have developed four freely available web-based risk calculators:

OxRec – Risk of Recidivism Tool, also available in Swedish, Greek, French, Chinese, Russian, Italian, Spanish, Finnish, German, and Polish.

OxMIV – Mental Illness and Violence Tool, also available in Greek, German, French, Chinese, Spanish, Russian, and Italian.*

OxMIS – Mental Illness and Suicide Tool, also available in French, Chinese, German, and Spanish.

FoVOx – Forensic Psychiatry and Violence Tool, also available in German, Chinese, Russian, Italian, and Swedish.

FoxWeb – Web-Based Violence Risk Monitoring Tool for discharged forensic psychiatric patients (pdf).

    – Web-based Monitoring Tool for inpatient violence in general and forensic psychiatric patients (pdf).

    – FoxWeb tool.

Publications

Fazel S, Wolf A, Larsson H, Mallett S, Fanshawe TR
The prediction of suicide in severe mental illness: development and validation of a clinical prediction rule (OxMIS)
Translational Psychiatry (2019) – doi:10.1038/s41398-019-0428-3

Wolf A, Fanshawe TR, Sariaslan A, Cornish R, Larsson H, Fazel S
Prediction of violent crime on discharge from secure psychiatric hospitals: a clinical prediction rule (FoVOx)
European Psychiatry (2018) – doi:10.1016/j.eurpsy.2017.07.011

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Modifiable risk factors for inpatient violence in psychiatric hospital: prospective study and prediction model

Seena Fazel[1,2] , Mark Toynbee[1,2,*], Howard Ryland[1,2,*] ,
Maria Vazquez-Montes[1,2], Hasanen Al-Taiar[1,2], Achim Wolf[1,2], Omar Aziz[1,2],
Vivek Khosla[1,2], Gautam Gulati[1,2] and Thomas Fanshawe[1,2]

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Abstract

Background. Violence perpetrated by psychiatric inpatients is associated with modifiable factors. Current structured approaches to assess inpatient violence risk lack predictive validity and linkage to interventions.

Methods. Adult psychiatric inpatients on forensic and general wards in three psychiatric hospitals were recruited and followed up prospectively for 6 months. Information on modifiable (dynamic) risk factors were collected every 1–4 weeks, and baseline background factors. Data were transferred to a web-based monitoring system (FOxWeb) to calculate a total dynamic risk score. Outcomes were extracted from an incident-reporting system recording aggression and interpersonal violence. The association between total dynamic score and violent incidents was assessed by multilevel logistic regression and compared with dynamic score excluded.

Results. We recruited 89 patients and conducted 624 separate assessments (median 5/patient). Mean age was 39 (s.d. 12.5) years with 20% ($n = 18$) female. Common diagnoses were schizophrenia-spectrum disorders (70%, $n = 62$) and personality disorders (20%, $n = 18$). There were 93 violent incidents. Factors contributing to violence risk were a total dynamic score of $\geqslant 1$ (OR 3.39, 95% CI 1.25–9.20), 10-year increase in age (OR 0.67, 0.47–0.96), and female sex (OR 2.78, 1.04–7.40). Non-significant associations with schizophrenia-spectrum disorder were found (OR 0.50, 0.20–1.21). In a fixed-effect model using all covariates, AUC was 0.77 (0.72–0.82) and 0.75 (0.70–0.80) when the dynamic score was excluded.

Conclusions. In predicting violence risk in individuals with psychiatric disorders, modifiable factors added little incremental value beyond static ones in a psychiatric inpatient setting. Future work should make a clear distinction between risk factors that assist in prediction and those linked to needs.

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Prediction of inpatient violence

- 89 inpatients from forensic and general wards of three hospitals

- Follow-up: Six months

- Information on static and dynamic risk factors (dynamic score) collected every 1 – 4 weeks

- Outcome from incident-reporting system (violent incidents)

- Entered into web-based monitoring system

- Patients: 80% male, 70% schizophrenia

- Results:
  – AUC 0.77, 0.75 when dynamic score was excluded
  – Dynamic score added little incremental value

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Change in clinical practice

- Decide purpose of risk assessment
  - Short term or longer term violence
  - Prediction or risk management (interventions targeting dynamic risk factors)
- Make sure instrument used is appropriate for your group of patients
- Consider using new OxRisk web-based instruments for prediction
- Easy to use prediction instrument could be used for stratification, e. g. for allocation of resources
- SPJ instruments are recommended for risk management planning

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Coercive measures: What we know so far

- Violent incidents are common in in-patient psychiatric settings
  - Systematic review: 67% any, physical violence 50,6% in past 12 months (Liu et al., 2018)
  - Dutch forensic sample: 67% of staff physical violence in past 5 years (van Leeuwen & Harte, 2015)
- Experience of such incidents is highly stressful and might lead to compromised patient care, absence from work and high turn-over
- Duty of care towards staff and fellow patients
- Non-patient related factors equally / more important than patient ones
- Deescalation techniques (probably?) work
- Coercive measures used to deal with violent incidents
- Not enough known about prevalence of such measures in forensic mental health
- Need to develop strategies to reduce both violent incidents and coercive measures

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Freedom Restrictive Coercive Measures in Forensic Psychiatry

Erich Flammer[1*], Udo Frank[2] and Tilman Steinert[1]

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Background: In Germany, people suffering from severe mental illness who have committed serious offenses and have considerably reduced or suspended criminal responsibility can be detained and treated in forensic psychiatric hospitals. In the German federal state of Baden-Wuerttemberg, all psychiatric hospitals including forensic psychiatric hospitals are obliged to record data on every coercive intervention and to submit them to a central registry. The objective of this study was to determine key measures for the use of seclusion and restraint and to compare them with data from the same registry on the use of coercion in general inpatient mental health care.

Methods: Data on the main psychiatric diagnosis according to ICD-10, type and duration of each coercive measure and number of treated cases according to diagnoses, and cumulated number of days of treatment from all 8 forensic facilities in the state of Baden-Wuerttemberg covering a catchment area with about 11 million inhabitants were collected at the treated-case-level for 3 years.

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Prevalence of coercive measures

- Compared coercive measures in forensic and non-forensic hospitals
- Register data 8 forensic and 32 non-forensic hospitals in one federal German state, total of 1431 / 115 011 patients
- Main diagnosis: forensic / non-forensic
  - F1: 41.6% / 27.4%
  - F2: 39.7% / 16.7%
  - F3: 2% / 26.4%

Type of measure	Prevalence forensic	Prevalence general	Cumulative duration forensic	Cumulative duration general
Mechanical restraint	3.8%	4.7%	262 (27) hrs.	38 (11) hrs.
Seclusion	22.6%	2.9%	344 (91) hrs.	32 (10) hrs.
Room confinement	13.2%	DNA	539 hrs.	DNA
Involuntary medication	1.9%	0.7%	DNA	DNA

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Change in clinical practice

- Develop (national and local) strategies to reduce coercive measures
- Introduce thorough monitoring of coercive measures
  - Type
  - Frequency
  - Duration
- Analyse data, including predictive factors (patient and non-patient)
- Report statistics regularly to senior management team and share with all staff
- Introduce measures:
  - Mandatory de-escalation training
  - Debriefing with patients and staff following serious incidents and coercive measures

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Psychological interventions: What we know so far

- Nothing works -> What works
- CBT based group interventions are recommended for risk reducing interventions for offenders
- Generally thought to work
- But what are the key ingredients of successful interventions?

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Review

Does specialized psychological treatment for offending reduce recidivism? A meta-analysis examining staff and program variables as predictors of treatment effectiveness

Theresa A. Gannon[a,*], Mark E. Olver[b], Jaimee S. Mallion[a], Mark James[a]

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[b] Department of Psychology, University of Saskatchewan, Canada

HIGHLIGHTS

- This meta-analysis examined psychological offense treatment and recidivism.
- Overall, 70 studies were identified; including over 55,000 individuals.
- Treatment was associated with offense-specific and general recidivism reductions.
- Programs with consistent input from a qualified psychologist had best results.

ARTICLE INFO

ABSTRACT

A meta-analysis was conducted to examine whether specialized psychological offense treatments were associated with reductions in offense specific and non-offense specific recidivism. Staff and treatment program moderators were also explored. The review examined 70 studies and 55,604 individuals who had offended. Three specialized treatments were examined: sexual offense, domestic violence, and general violence programs. Across all programs, offense specific recidivism was 13.4% for treated individuals and 19.4% for untreated comparisons over

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Factors in the effectiveness of treatment programmes to reduce reoffending

- Metaanalysis of 70 studies, over 55 000 offenders (violence, domestic violence, sexual)
- Reoffending
  - Offence specific recidivism: 19.4% without treatment, 13.4% with
  - Any violence: 21.6% without / 14.4% with
- Average follow-up 66 / 65 months
- Main characteristics of effective programms:
  - Facilitated by psychologist + co-therapist
  - External supervision
  - More than 100 hours
  - Group only (as opposed to group + 1:1)
  - Closed group
  - CBT based (but not psychoeduction only)
  - Consistency in implementation
  - Out-patient programmes more succesful

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Change in clinical practice

- Review your treatment programmes for these factors
- Carefully consider success factors (evidence based!) in new treatment programmes
- In summary:
  - RNR, Good lives, CBT
  - No punishment
  - Strength based, focus on skills
  - Coherent concept, shared with team and patient
  - Sufficient length
  - Closed group
  - Psychologist + co-therapist with external supervision
  - Active participation (home work, etc.)
- Evaluate programme -> contribute to developing evidence base

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Pharmacological treatment: What we know so far

- Pharmacological treatment is the first line treatment for major mental disorders such as schizophrenia

- Some evidence to suggest that some antipsychotics affect impulsivity (and reduce violent incidents, e. g. clozapine)

- Clozapine might reduce reoffending compared to other antipsychotics (Mela & Depiang, 2016)

- Differential effect of other antipsychotics not clear

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Original Article

Associations between individual antipsychotics and the risk of arrests and convictions of violent and other crime: a nationwide within-individual study of 74 925 persons

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Abstract

Background. Individuals diagnosed with psychiatric disorders who are prescribed antipsychotics have lower rates of violence and crime but the differential effects of specific antipsychotics are not known. We investigated associations between 10 specific antipsychotic medications and subsequent risks for a range of criminal outcomes.

Methods. We identified 74 925 individuals who were ever prescribed antipsychotics between 2006 and 2013 using nationwide Swedish registries. We tested for five specific first-generation antipsychotics (levomepromazine, perphenazine, haloperidol, flupentixol, and zuclopenthixol) and five second-generation antipsychotics (clozapine, olanzapine, quetiapine, risperidone, and aripiprazole). The outcomes included violent, drug-related, and any criminal arrests and convictions. We conducted within-individual analyses using fixed-effects Poisson regression models that compared rates of outcomes between periods when each individual was either on or off medication to account for time-stable unmeasured confounders. All models were adjusted for age and concurrent mood stabilizer medications.

Results. The relative risks of all crime outcomes were substantially reduced [range of adjusted rate ratios (aRRs): 0.50–0.67] during periods when the patients were prescribed antipsychotics *v.* periods when they were not. We found that clozapine (aRRs: 0.28–0.44), olanzapine (aRRs: 0.46–0.72), and risperidone (aRRs: 0.53–0.64) were associated with lower arrest and conviction risks than other antipsychotics, including quetiapine (aRRs: 0.68–0.84) and haloperidol (aRRs: 0.67–0.77). Long-acting injectables as a combined medication class were associated with lower risks of the outcomes but only risperidone was associated with lower risks of all six outcomes (aRRs: 0.33–0.69).

Conclusions. There is heterogeneity in the associations between specific antipsychotics and subsequent arrests and convictions for any drug-related and violent crimes.

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# Associations between antipsychotics and risk of offending

- Large study including nearly 75 000 patients
- Design
  - Swedish registry study data
  - Within subject
  - 2006 – 2013
  - 5 specific first- (levomepromazine, perphanzine, haloperidol, flupentixol, zuclopentixol) and second generation antipsychotics (clozapine, olanzapine, quetiapine, risperidone, aripirazole)
  - Compared rates when individuals were on and off medication
  - Outcomes: any arrests or convictions

Results: Overall effect
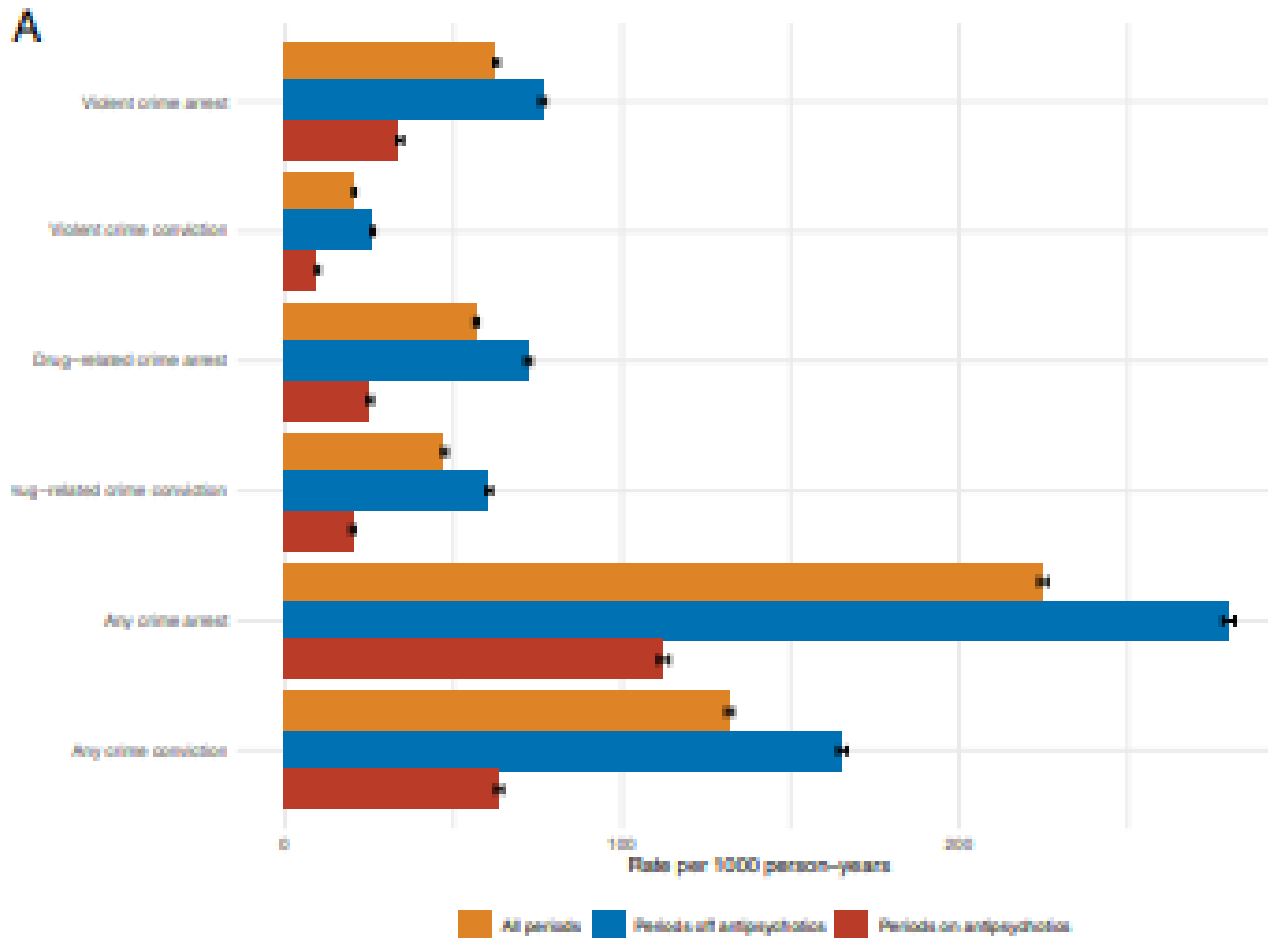
Results: Differential effects

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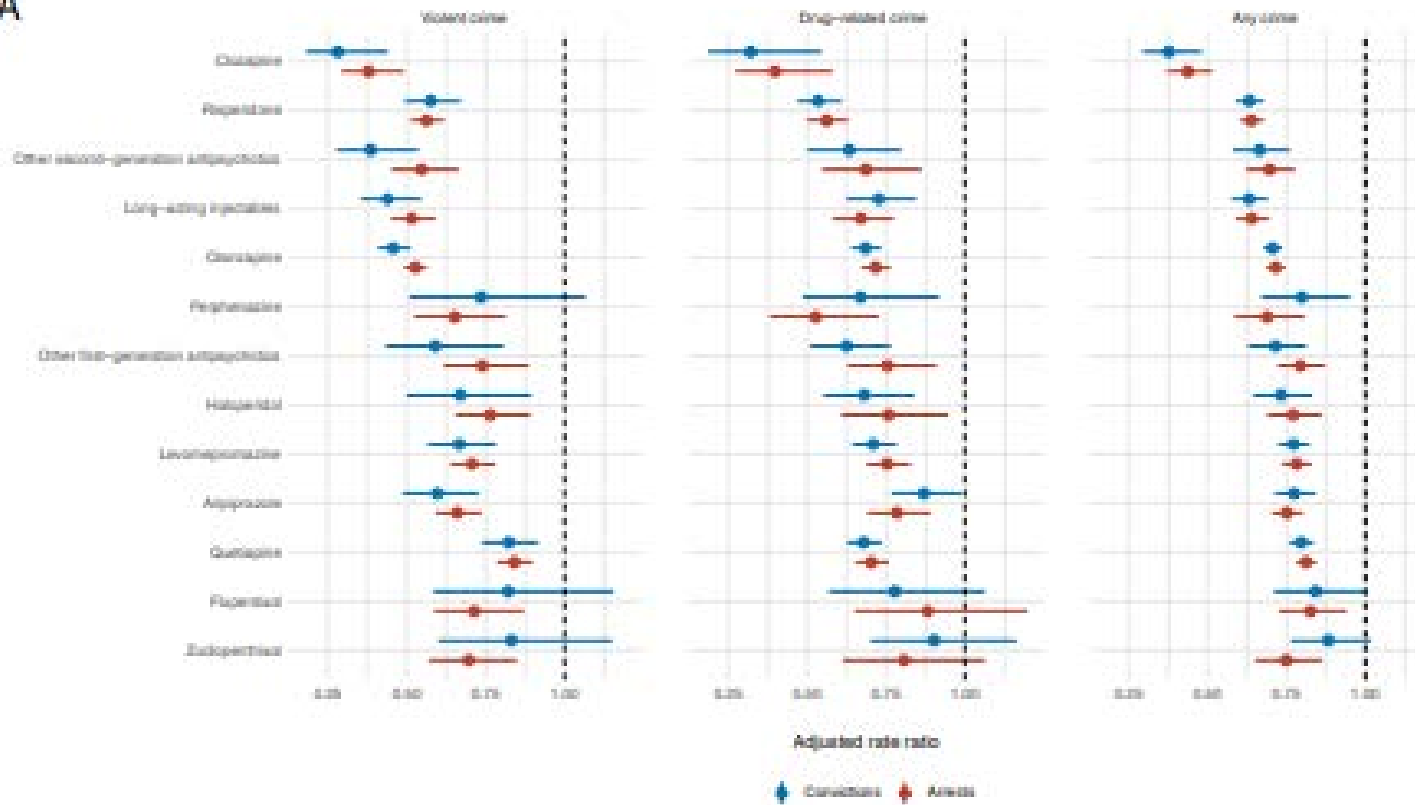
Change in clinical practice

- Importance of prescribing antipsychotic medication also for crime outcomes
- Consider differential effects
- Consider depot
- Individualised care
- Importance of adherence to medication
- Educate staff accordingly

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Virtual reality: What we know so far

- Virtual reality is a simulated experience that can be similar or different from the real world
- It is used widely in entertainment and education
- Applications in psychiatry include
  - Research: Simulating experiences to explore interactions and underlying mechanisms
  - Therapy: E. g. CBT (e. g. exposure therapy), virtual reality in Alzheimer's – emerging evidence base
- Application in forensic settings less well explored

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Testing the Effects of a Virtual Reality Game for Aggressive Impulse Management: A Preliminary Randomized Controlled Trial among Forensic Psychiatric Outpatients

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Abstract: Prior laboratory experiments among healthy samples found that training avoidance movements to angry faces may lower anger and aggression, especially people high in trait anger. To enrich this training and make it more suitable for clinical applications, the present researchers developed it into a Virtual Reality Game for Aggressive Impulse Management (VR-GAIME). The current study examined the effects of this training in a randomized controlled trial among forensic psychiatric outpatients with aggression regulation problems (N = 30). In addition to the aggression replacement training, patients played either the VR-GAIME or a control game. Aggressive behavior was measured pre-, half-way, and post-treatment via self-report and clinicians ratings. No difference was found between the VR-GAIME and the control game. However, the participants reported gaining more insight into their own behavior and that of others. Future VR intervention tools in clinical settings may capitalize more on their benefits for self-reflection within interpersonal settings.

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Virtual reality for aggressive impulse management

- Randomised controlled trial
- Forensic male outpatients with problems in regulating aggression (N = 30 – down from 46) in Netherlands
- Virtual Reality Game for Aggressive Impulse Management (and control game), five weekly sessions

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Virtual reality for aggressive impulse management, continued

- Follow-up 12 weeks
- Outcome
  - Self- and clinician-rated aggression
  - Participant evaluation of the game and added value
- Results:
  - No differences in main outcome
  - Participants enjoyed the game
  - Thought it helped them gaining more insight into their own behaviour and that of others

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Changes in clinical practice

- Virtual reality should be further developed in forensic settings
- Alternative / Addition to methods targeting conscious thoughts and processes in motivated individuals
- Improve validity to real life situations
- Target specific groups of patients

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Thanks for your attention!

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