

# The relationship between SUD and GD: a nationwide longitudinal health registry study

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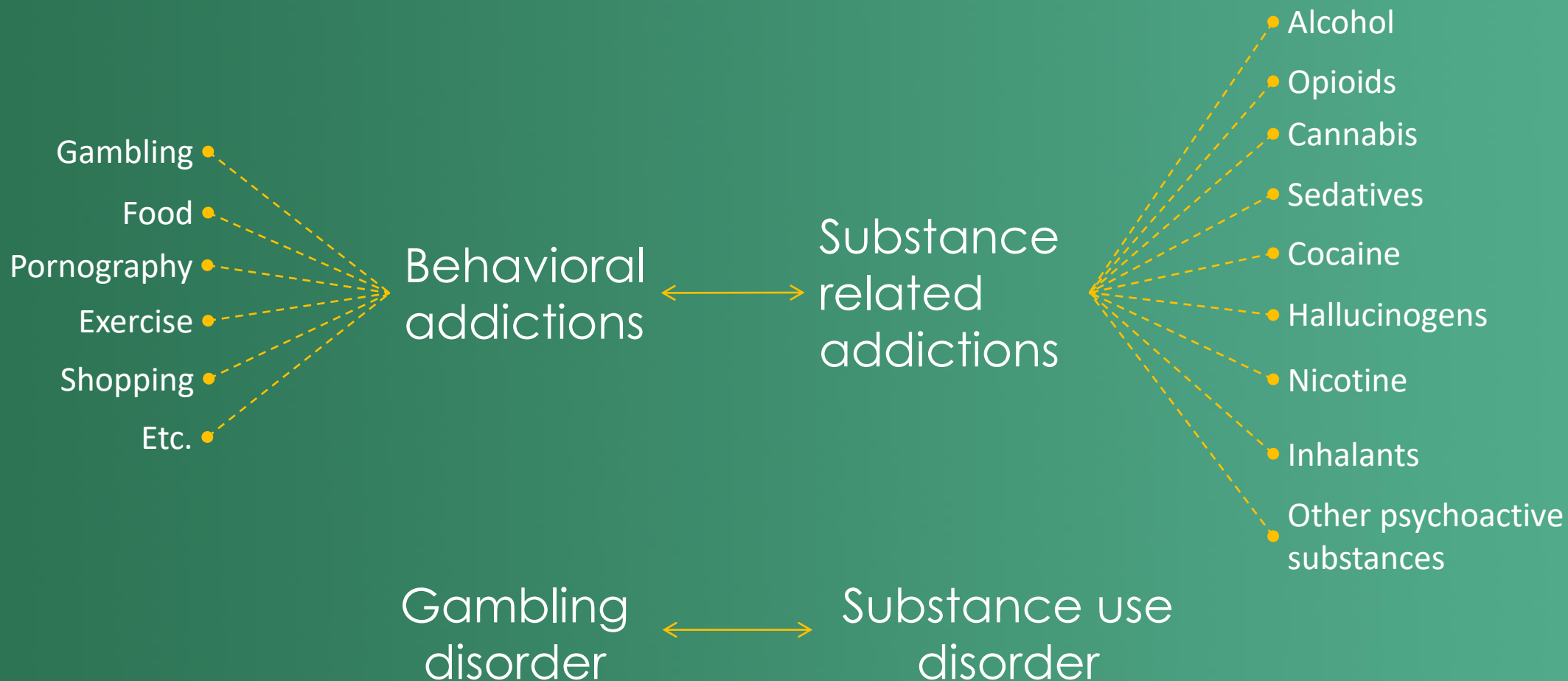
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# The relationship between SUD and GD



# The **temporal** relationship between SUD and GD

Incidence of SUD among GD patients



Incidence of GD among SUD patients



<sup>1</sup>**Incidence:**  
The number of **new cases** of the disease within a specified period of time.  
**Prevalence:**  
The number of **existing** cases of disease at a particular point in time.

(Woodward, 2014)

# Aim

Investigate the **incidence**<sup>1</sup> of an addictive disorder (GD and SUD).

The **risk** of GD(SUD) treatment in the **general population** compared to the **risk** GD(SUD) treatment among **those who receive SUD(GD) the same year**.

The **risk** of the **other disorder** among GD and SUD patients within a **4-year period**.

## DATA

**Nationwide registry data** from the **Norwegian Patient Registry** (NPR) from 2008-2017.

The year of **first GD treatment** (F63.0 in ICD-10) and/or **first SUD treatment** (F10-19 in ICD-10).

**Gender** and **age** (0-17; 18-39; 40-66 and 67 year or older)

NB!(We excluded those being 0-17 years old)

<sup>1</sup>The year of first GD/SUD treatment.

# Preliminary results

## Incidence of SUD and GD treatments between 2008-2017 in Norway.\*

SUD		GD		Overall
<i>N</i>	%	<i>N</i>	%	<i>N</i>
147 743	97.7 %	4 388	2.9 %	151 144

987 of 151 144 persons (0.6%)  
received treatment for both disorders.

### GD sample:

Among 4 012 GD patients, 3 401 (84.8%) received only GD treatment, 402 (10.0%) received SUD treatment the same year 209 (5.2%) received SUD treatment a year or more after onset of GD treatment.

(376 patients with SUD before GD were removed)

### SUD sample:

Among 147 534 SUD patients, 146 756 (99.5%) received SUD treatment only, 402 (0.3%) received GD treatment the same year, 376 (0.3% received GD treatment a year or more after onset of SUD treatment.

(209 patients with GD before SUD were removed)

\* Independent of onset of other disorder.

# Preliminary results contd.

Risk of GD treatment in Norway and risk of GD the same year given SUD.

Year	GD in pop			GD SUD			RR*
	Pop. Norway	GD <sub>N</sub>	R <sub>GD</sub>	SUD <sub>N</sub>	GD <sub>N</sub>  SUD <sub>N</sub>	R <sub>GD SUD</sub>	
2008	3,637,892	363	0.010 %	26,545	74	0.28 %	27.9
2009	3,695,771	453	0.012 %	20,826	50	0.24 %	19.6
2010	3,749,043	371	0.010 %	15,388	31	0.20 %	20.4
2011	3,805,931	311	0.008 %	13,676	30	0.22 %	26.8
2012	3,867,645	340	0.009 %	13,052	32	0.25 %	27.9
2013	3,928,378	323	0.008 %	12,256	26	0.21 %	25.8
2014	3,983,895	395	0.010 %	11,832	37	0.31 %	31.5
2015	4,040,198	416	0.010 %	11,526	36	0.31 %	30.3
2016	4,086,583	447	0.011 %	11,427	37	0.32 %	29.6
2017	4,127,266	593	0.014 %	11,006	49	0.45 %	31.0
<i>Mean</i>			0.01 %			0.28 %	27.1
<i>SD</i>			0.002 %			0.073 %	4.2
<i>Md</i>			0.01 %			0.26 %	27.9

Risk of SUD treatment in Norway and risk of SUD the same year given GD.

Year	SUD in pop			SUD GD			RR*
	Pop Norway	SUD <sub>N</sub>	R <sub>SUD</sub>	GD <sub>N</sub>	SUD <sub>N</sub>  GD <sub>N</sub>	R <sub>SUD GD</sub>	
2008	3,637,892	26,545	0.730 %	363	74	20.39 %	27.9
2009	3,695,771	20,826	0.568 %	453	50	11.04 %	19.4
2010	3,749,043	15,388	0.416 %	371	31	8.36 %	20.1
2011	3,805,931	13,676	0.365 %	311	30	9.65 %	26.4
2012	3,867,645	13,052	0.344 %	340	32	9.41 %	27.3
2013	3,928,378	12,256	0.319 %	323	26	8.05 %	25.2
2014	3,983,895	11,832	0.305 %	395	37	9.37 %	30.7
2015	4,040,198	11,526	0.294 %	416	36	8.65 %	29.5
2016	4,086,583	11,427	0.288 %	447	37	8.28 %	28.7
2017	4,127,266	11,006	0.276 %	593	49	8.26 %	30.0
<i>Mean</i>			0.39 %			10.14 %	26.5
<i>SD</i>			0.147 %			3.71 %	3.9
<i>Md</i>			0.33 %			9.01 %	27.6

Risk ratio (R) = The number of cases with disease / the number of cases at risk.

$R_{GD(SUD)}$  = Risk of GD(SUD).

$R_{GD(SUD)|SUD(GD)}$  = Risk of GD(SUD) given SUD(GD)

RR = relative risk ratio. A risk ratio / another risk ratio.

# Preliminary results contd.

The risk of receiving the other treatment (SUD or GD) the same year or later after onset of first disorder (GD or SUD) among those diagnosed with an addictive disorder.

Year	$R_{GD SUD}$				$R_{SUD GD}$				!RR	$RR_{(GD.. / SUD..)}$		
	R !GD	R GDConc.	R GD1-2yrs	R GD3-4yrs	R !SUD	R SUDconc.	R SUD1-2yrs	R SUD3-4yrs		RR Conc.	RR 1-2yrs	RR 2-4yrs
2008	99.58 %	0.28 %	0.08 %	0.06 %	73.83 %	20.39 %	3.03 %	2.75 %	0.74	73.13	36.56	45.70
2009	99.58 %	0.24 %	0.10 %	0.08 %	82.34 %	11.04 %	3.09 %	3.53 %	0.83	45.97	30.65	43.27
2010	99.58 %	0.20 %	0.13 %	0.08 %	83.56 %	8.36 %	4.85 %	3.23 %	0.84	41.48	37.33	38.29
2011	99.63 %	0.22 %	0.08 %	0.07 %	85.53 %	9.65 %	2.57 %	2.25 %	0.86	43.97	31.98	30.78
2012	99.53 %	0.25 %	0.12 %	0.10 %	87.06 %	9.41 %	1.47 %	2.06 %	0.87	38.39	12.00	20.67
2013	99.58 %	0.21 %	0.11 %	0.09 %	86.38 %	8.05 %	4.33 %	1.24 %	0.87	37.94	37.94	13.80
2014	99.54 %	0.31 %	0.10 %	0.05 %	87.09 %	9.37 %	2.03 %	1.52 %	0.87	29.95	19.97	29.95
2015	99.47 %	0.31 %	0.22 %	NA	88.22 %	8.65 %	3.13 %	NA	0.89	27.71	14.41	NA
2016	99.54 %	0.32 %	0.13 %	NA	90.83 %	8.28 %	0.89 %	NA	0.91	25.56	6.82	NA
2017	99.55 %	0.45 %	NA	NA	91.74 %	8.26 %	NA	NA	0.92	18.56	NA	NA
<i>M</i>	99.56 %	0.28 %	0.12 %	0.08 %	85.66 %	10.14 %	2.82 %	2.37 %	0.86	38.27	25.30	31.78
<i>SD</i>	0.04 %	0.07 %	0.04 %	0.02 %	5.06 %	3.71 %	1.27 %	0.85 %	0.05	15.08	12.10	11.69
<i>Md</i>	99.57 %	0.26 %	0.11 %	0.08 %	86.72 %	9.01 %	3.03 %	2.25 %	0.87	38.17	30.65	30.78

# So What?! (discussion)

The risk of receiving treatment of a disorder is greater when being in treatment of the other disorder compared to the risk of receiving a treatment in the general population.

Receiving treatment of the other disorder depends on the nature of the first disorder.

~99% of SUD patients did not receive GD treatment.

~85% of GD patients did not receive GD treatment; 10% the same year; 5% 1-4 years after

More likely to be revealed?  
True co-morbidity?  
Predictive properties?

} ?





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