



Folkhälsomyndigheten
PUBLIC HEALTH AGENCY OF SWEDEN

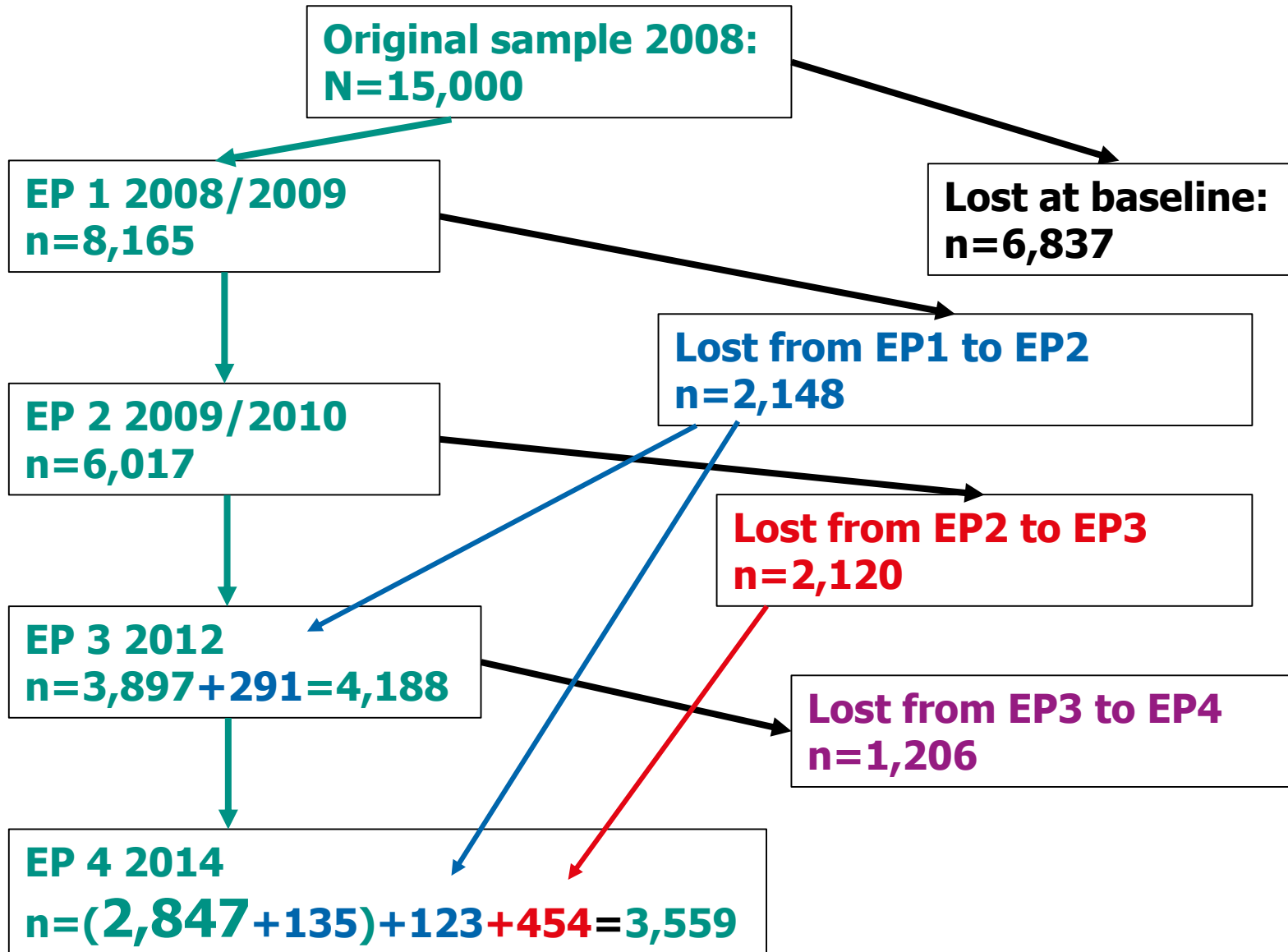
Problem gambling and consequences in regards to health and life events over time

The 12th SNSUS Conference,
Tampere, Finland, June 4th 2019

Ulla Romild, Public Health Agency of Sweden

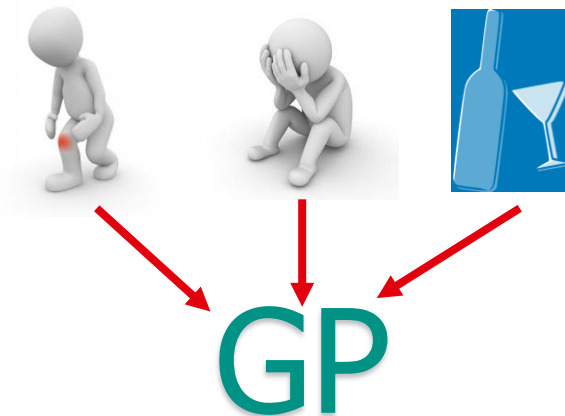


Swedish Longitudinal Gambling Study (SWELOGS)



Two different perspectives

- Can we predict future gambling problems based on health?

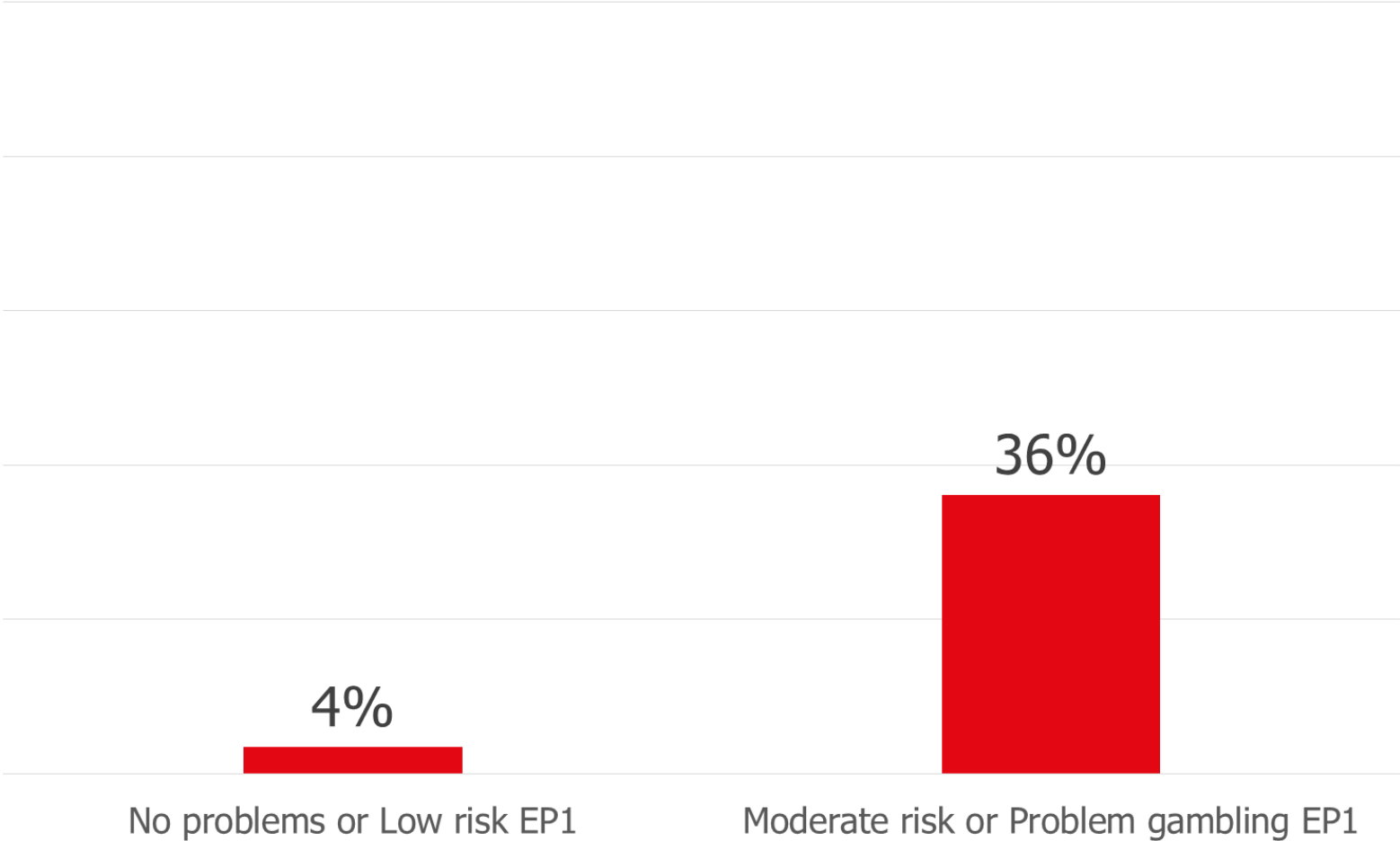


- What can we predict from gambling problems?



Gambling problems in themselves are a major risk for future gambling problems

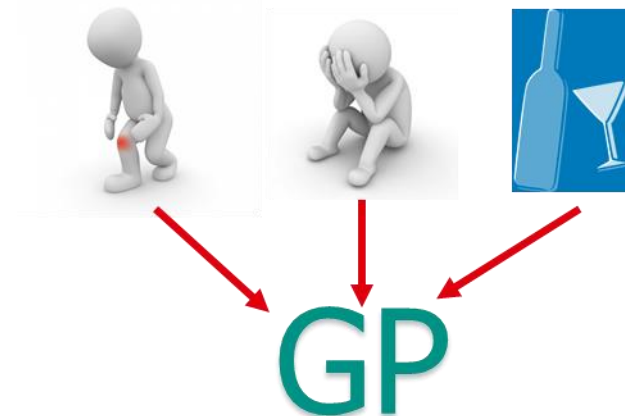
Moderate risk or Problem gambling at least once EP2-EP4



Crude OR: **15.8**
(P<.001)

OR adjusted for gender, age and education: **15.0**
(P<.001)

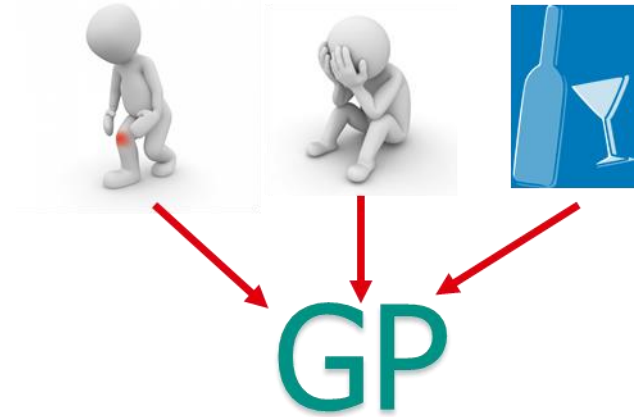
Can Health Issues Predict Future Gambling Problems?



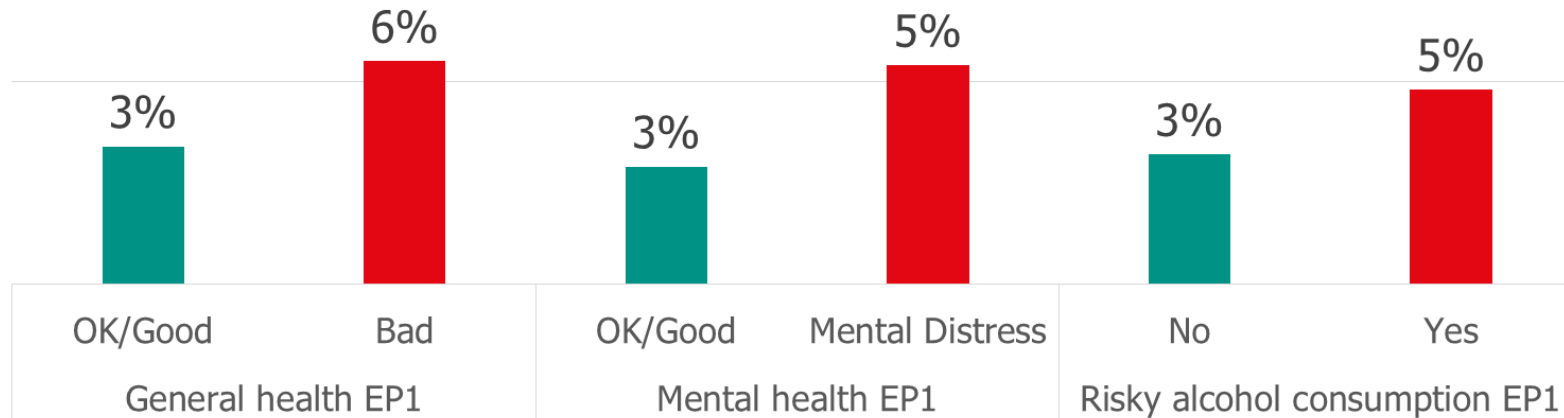
- Subsample
 - Low risk or No problem gamblers EP1
 - Participated in at least 3 of 4 waves
- Outcome: Gambling problems; Moderate Risk or Problem Gambling at least once EP2-EP4
- Compared people with good or bad health at baseline (EP1)
 - Good health at baseline:
 - General health (OK/Good/Very good)
 - Mental health (Kessler 6, below 5)
 - Not Risky alcohol consumption (Audit C)
- Logistic regression
 - Crude OR
 - OR adjusted for gender, age and education
 - Full model: adjusted for gender, age and education and all 3 health predictors

Can Health Issues Predict Future Gambling Problems?

Moderate risk or Problem gambling at least once EP2-EP4



	Crude OR	P-value
Bad general health EP1	1.6	.256
Mental distress EP1	1.9	<.001
Risky alcohol consumption EP1	1.5	.050

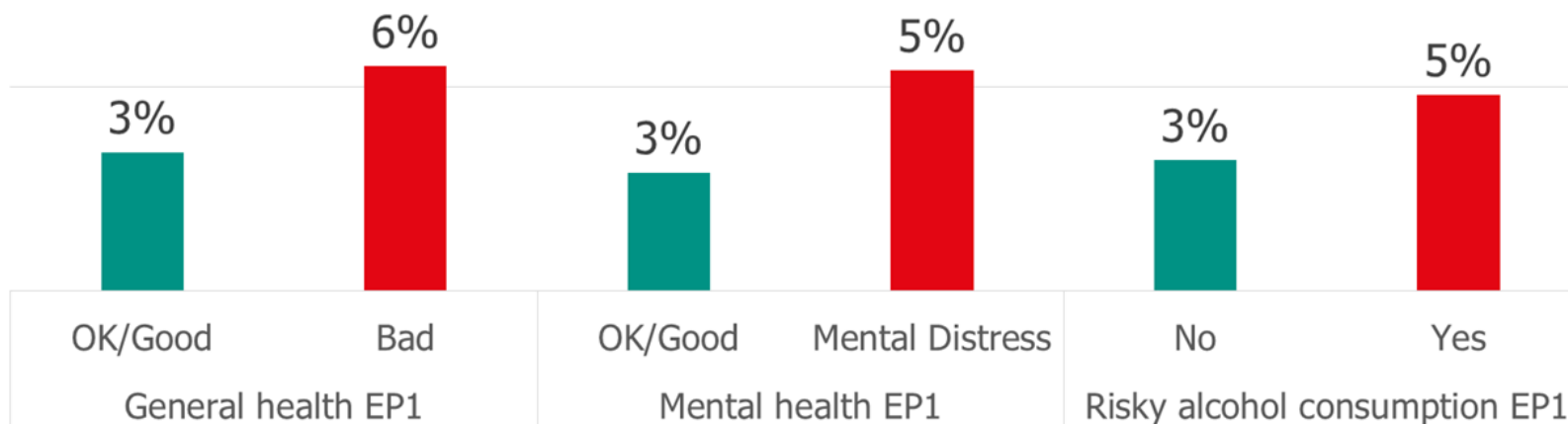


Can Health Issues Predict Future Gambling Problems?



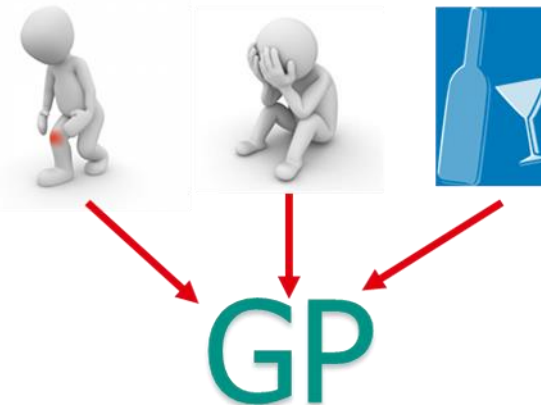
Moderate risk or Problem gambling at least once EP2-EP4

	Crude OR	P-value	OR adjusted for gender, age and education	P-value
Bad general health EP1	1.6	.256	2.4	.045
Mental distress EP1	1.9	<.001	2.0	<.001
Risky alcohol consumption EP1	1.5	.050	1.2	.508

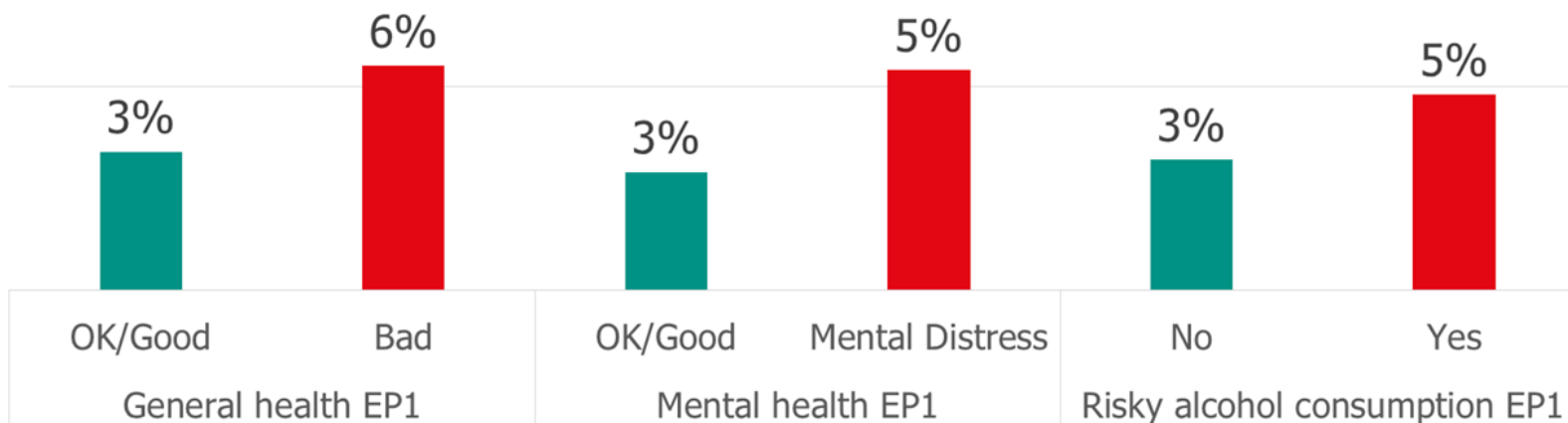


Can Health Issues Predict Future Gambling Problems?

Moderate risk or Problem gambling at least once EP2-EP4



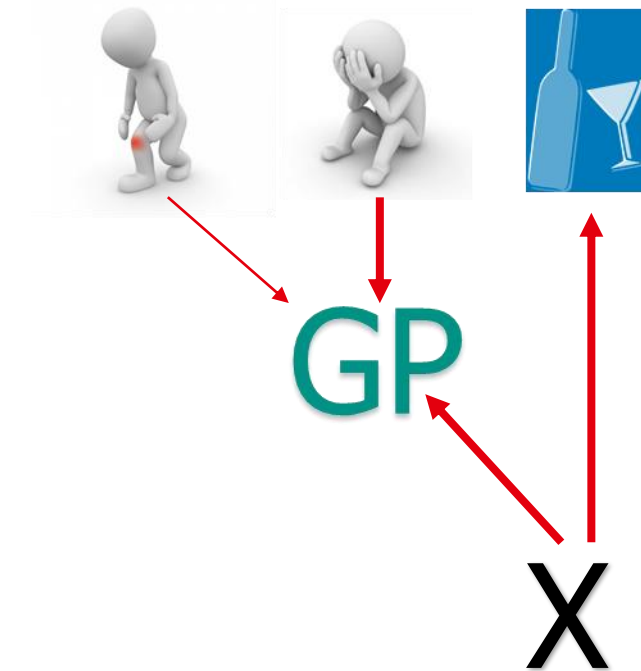
	Crude OR	P-value	OR adjusted for gender, age and education	P-value	OR full model	P-value
Bad general health EP1	1.6	.256	2.4	.045	1.4	.450
Mental distress EP1	1.9	<.001	2.0	<.001	1.9	<.001
Risky alcohol consumption EP1	1.5	.050	1.2	.508	1.1	.786



Can Health Issues Predict Future Gambling Problems?

- Yes!
- Bad general health and Mental distress can predict future Gambling Problems
 - In particular Mental distress
- Risky alcohol consumption has rather the same predictors as Gambling Problems

Conclusion: The health sector is a relevant sector for gambling prevention



Can Gambling Problems Predict Future Health Issues?

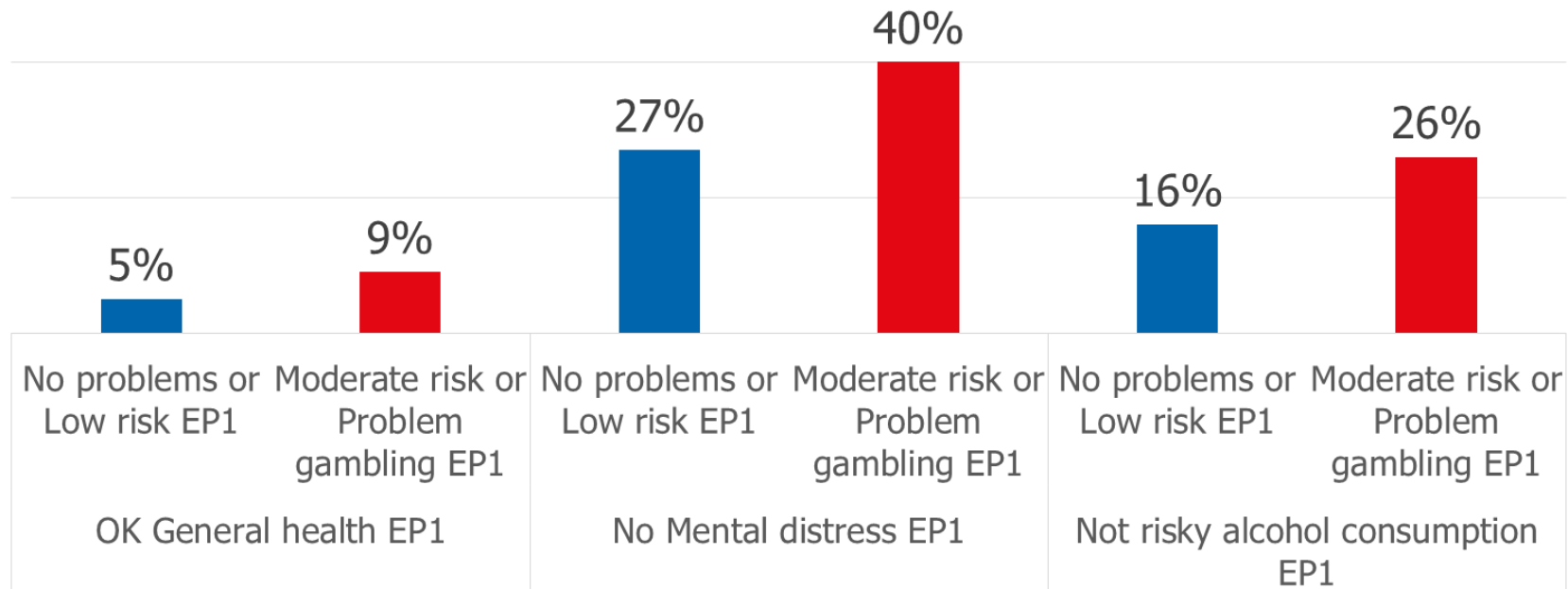
- Inclusion criteria for each analysis
 - Participated in at least 3 waves
 - Good health at baseline:
 - General health (OK/Good/Very good)
 - Mental health (Kessler 6, below 5)
 - Not Risky alcohol consumption (Audit C)
- Outcomes: Health issue at least once in wave 2-4 (3 different)
- Gambling problems (main predictor): Moderate Risk and Problem Gambling combined
- OR estimated by logistic regression
 - Crude estimates
 - Adjusted for gender, age and education



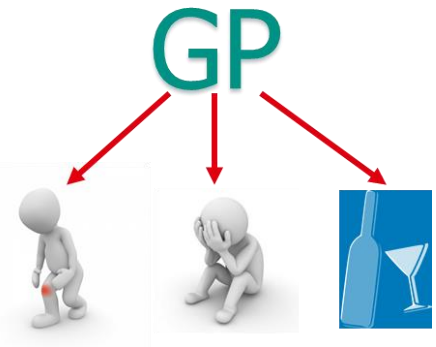
Can Gambling Problems Predict Future Health Issues?

Health issue at least once EP2-EP4

Health Issue	Crude OR	P-value
General health	1.7	.086
Mental distress	1.8	.016
Risky alcohol consumption	1.8	.025

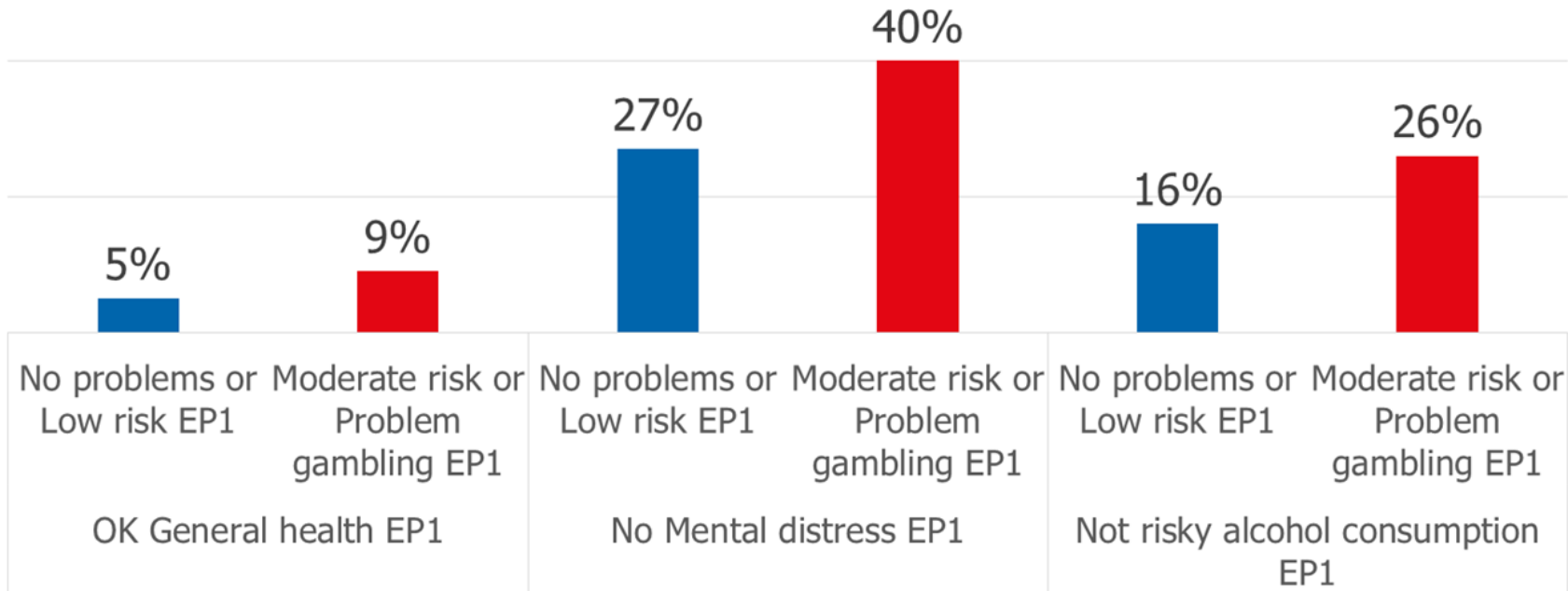


Can Gambling Problems Predict Future Health Issues?



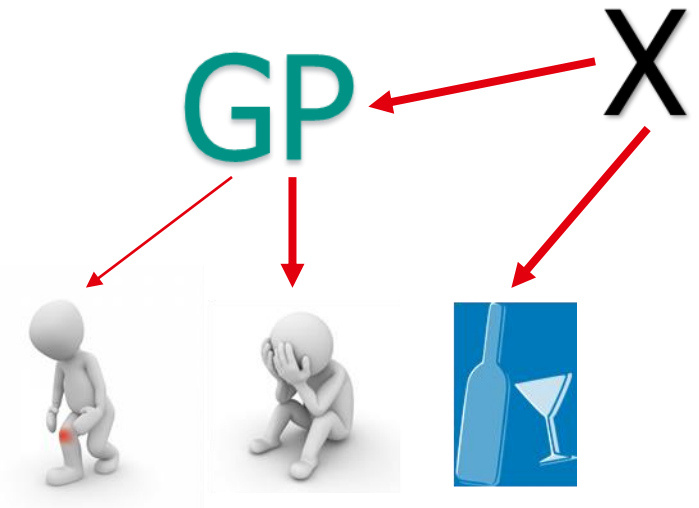
Health issue at least once EP2-EP4

Health issue	Crude OR	P-value	OR adjusted for gender, age and education	P-value
General health	1.7	.086	1.8	.083
Mental distress	1.8	.016	1.7	.033
Risky alcohol consumption	1.8	.025	1.6	0.100



Can Gambling Problems Predict Future Health Issues?

- Yes!
- Some, but not significant, effect for general health issues
- 70-80% increased risk for mental distress
- Increased risk in regards to alcohol rather related to common predictors



	Crude OR	P-value	OR adjusted for gender, age and education	P-value
General health	1.7	.086	1.8	.083
Mental distress	1.8	.016	1.7	.033
Risky alcohol consumption	1.8	.025	1.6	0.100

Can Gambling Problems Predict Life Events?

- Moderate risk/Problem Gambling does not predict:
 - The death of someone close
 - Retirement
 - Pregnancy/New child
 - Larger loan or investment
 - Changes in housing conditions

according to Swelogs 2008-2014

GP



Life
Events

Can Gambling Problems Predict Life Events?

GP



Life Events

At least once EP2-EP4	Crude OR	P-value
Situation at work into to the worse	2.3	<.001
Serious change in household economy, better	2.1	<.001
Divorce or Separation	1.9	.001
Legal difficulties	1.9	.011
Increased number of arguments with someone close	1.9	.001
Serious injury or disease, own or someone close	1.8	.002
Problem at work, with your boss or your superiours	1.8	.002
Serious change in household economy, worse	1.8	<.001
Marriage or New relation	1.7	.003
Situation at work into to the better	1.6	.007



Can Gambling Problems Predict Life Events?

At least once EP2-EP4	Crude OR	P-value	OR adjusted for gender, age and education	P-value
Situation at work into to the worse	2.3	<.001	2.0	.002
Serious change in household economy, better	2.1	<.001	1.9	.001
Divorce or Separation	1.9	.001	1.6	.029
Legal difficulties	1.9	.011	1.7	.048
Increased number of arguments with someone close	1.9	.001	1.6	.021
Serious injury or disease, own or someone close	1.8	.002	1.8	.002
Problem at work, with your boss or your superiours	1.8	.002	1.7	.006
Serious change in household economy, worse	1.8	<.001	1.6	.012
Marriage or New relation	1.7	.003	1.5	.046
Situation at work changed into the better	1.6	.007	1.4	.065



Can Gambling Problems at different levels Predict Life Events?

At least once EP2-EP4	Crude OR	P-value	OR adjusted for gender, age and education	P-value
Situation at work changed into the worse	2.3	<.001	2.0	.002
Serious change in household economy, better	2.1	<.001	1.9	.001
Divorce or Separation	1.9	.001	1.6	.029
Legal difficulties *	1.9	.011	1.7	.048
Increased number of arguments with someone close *	1.9	.001	1.6	.021
Serious injury or disease, own or someone close	1.8	.002	1.8	.002
Problem at work, with your boss or your superiours *	1.8	.002	1.7	.006
Serious change in household economy, worse	1.8	<.001	1.6	.012
Marriage or New relation *	1.7	.003	1.5	.046
Situation at work changed into the better	1.6	.007	1.4	.065





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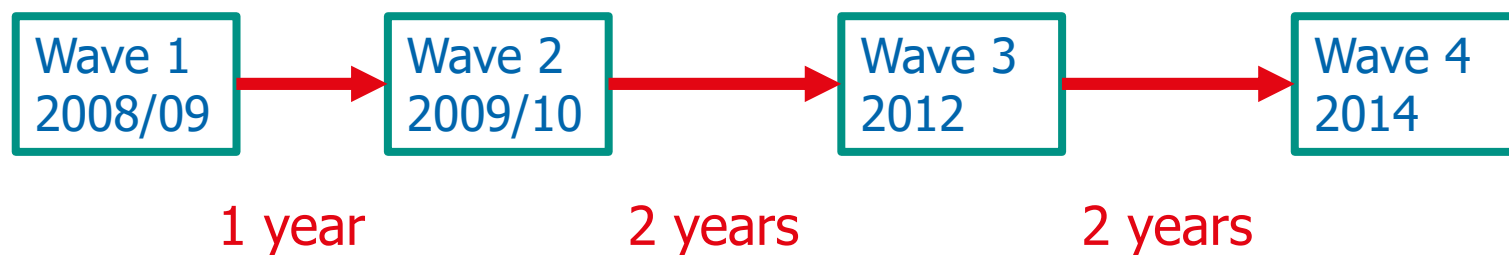
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Problem gambling and consequences in regards to health and life events over time

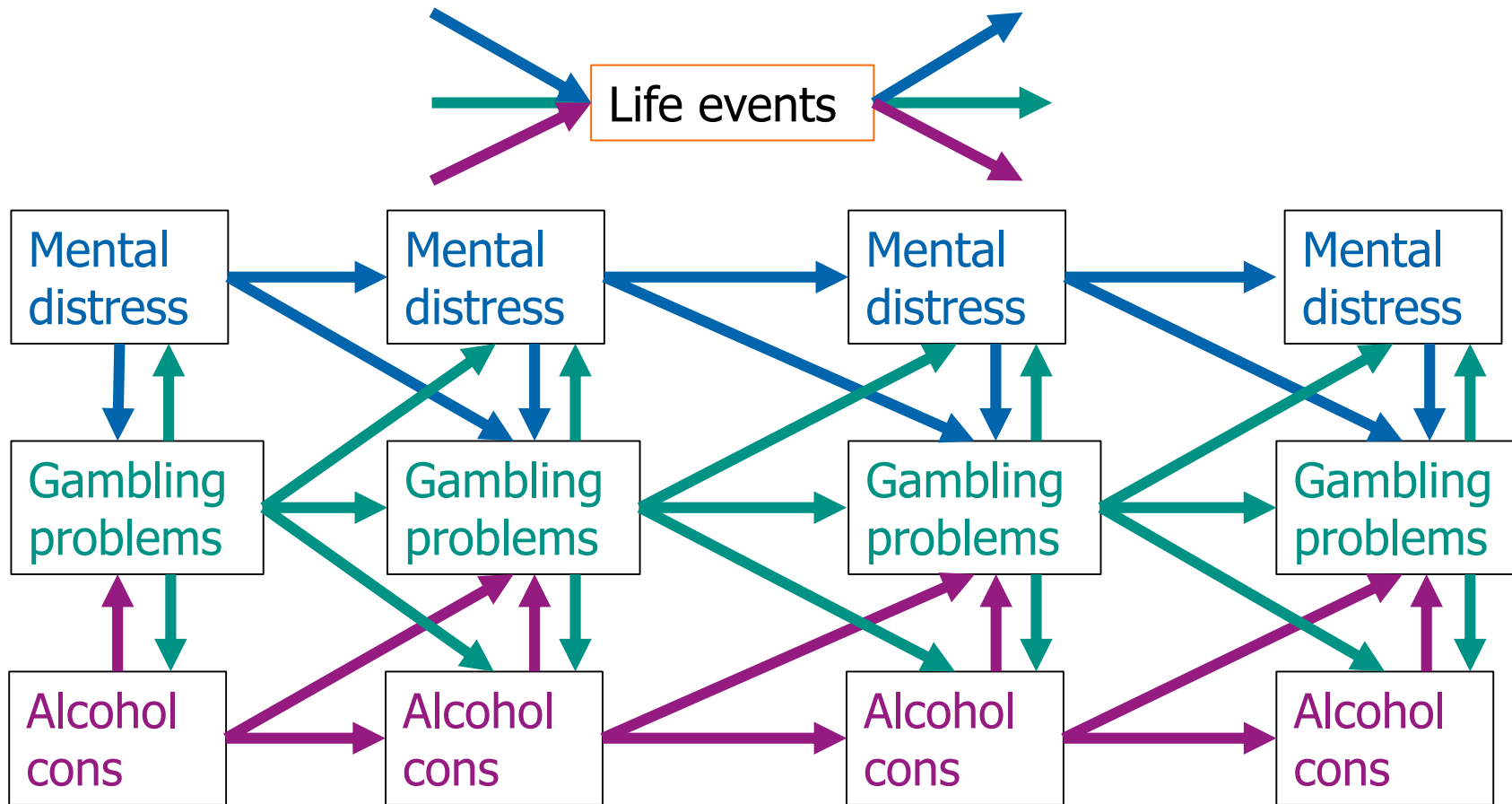
Correlates and predictors to gambling problems are fairly well known while the consequences over time are less studied. The epidemiological track of the Swedish Longitudinal Study (Swelogs) comprised four measurement points between 2008 and 2014 where we followed a stratified sample from the National Register of the Population aged 16-84 at baseline. About 3 000 individuals remained throughout the study, which enables us to study consequences over time.

We have studied crude effects and then adjusted them for gender, age and educational level, which capture a lot of the differences between problem gamblers and other individuals. Our results show that bad health, in regards to mental health but also general health, can be a consequence as well as a cause of problem gambling, while risky alcohol consumption rather share the same socio-demographic risk factors with problem gambling. We have also studied which life events that are more likely for problem gamblers.

Swelogs data collection



General model



Background variables: Age, gender, education – and gambling frequency for gambling problems

Gambling problems

- Previous gambling problems increase the risk
- Previous mental distress may decrease the risk, but only on 1 years perspective, while simultaneous mental distress increase the risk
- We see no obvious influence from alcohol consumption
- Being female, having more than primary education and getting older decrease the risk
- Live events past 12 months, such as problem at work, severe change of the household economy into the worse, but also into the better increase the risk
- Improved housing conditions and worse work situation decrease the risk

What is related to gambling problems over time?

	Risk	Protective factor
Previous gambling problems	X	
Mental distress	Simultaneously	From 1 year to another
Alcohol consumption	-	-
Gender	Male	
Age	Young age	
Education		More than primary level
Life events	Problem at work	Improved housing
	Worse economy	Worse work situation
	Better economy	

Mental distress

- Previous gambling problems increase the risk, while simultaneous gambling problems decrease the risk (reduce anxiety?)
- Previous mental distress increase the risk
- Being female increase the risk, while the risk is reduced by age
- Several life events increase the risk: separation or divorce, legal problems, serious illness or injury, marriage or new relation, problem at work, worse economy, worse housing, worse work situation but also better work situation
- To retire decrease the risk

Alcohol consumption

- Simultaneous gambling problems increase the consumption, but not previous gambling problems
- Previous alcohol consumption increase the present consumption
- Being female, and educated more than primary level, decrease the consumption, and it's reduced by age
- Separation or divorce, marriage or new relation, problems at work and a better work situation may increase the alcohol consumption
- Pregnancy or a new child reduce the alcohol consumption

How gambling problems, mental distress and alcohol consumption effect life events

Dependent	Gambling problems		Mental distress		Alcohol consumption	
	1 year	2 years	1 year	2 years	1 year	2 years
Death, someone close						
Separation or divorce	Increase	n.s	Increase	Increase	Increase	n.s
Legal problems	Increase	n.s	Increase	Increase	Increase	n.s
Serious illness or injury						
Marriage or new relation	Increase	n.s	n.s	n.s	Increase	Increase
Problem at work	n.s	Increase	Increase	Increase	Increase	n.s
Retired						
Pregnancy or new child						
Worse economy	n.s	n.s	Increase	Increase	n.s	n.s
Better economy	Increase	n.s	n.s	n.s	Increase	Increase
Large loan or investment	n.s	n.s	n.s	n.s	Increase	Increase
Worse housing	n.s	n.s	Increase	Increase	n.s	n.s
Improved housing	n.s	n.s	n.s	n.s	Increase	Increase
Worse work situation	n.s	Increase	Increase	Increase	n.s	n.s
Better work situation	n.s	n.s	Increase	Increase	Increase	Increase

