



BC Centre for Disease Control
An agency of the Provincial Health Services Authority



Calls to the British Columbia Drug and Poison Information Centre on the cusp of cannabis legalization

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June 12, 2019

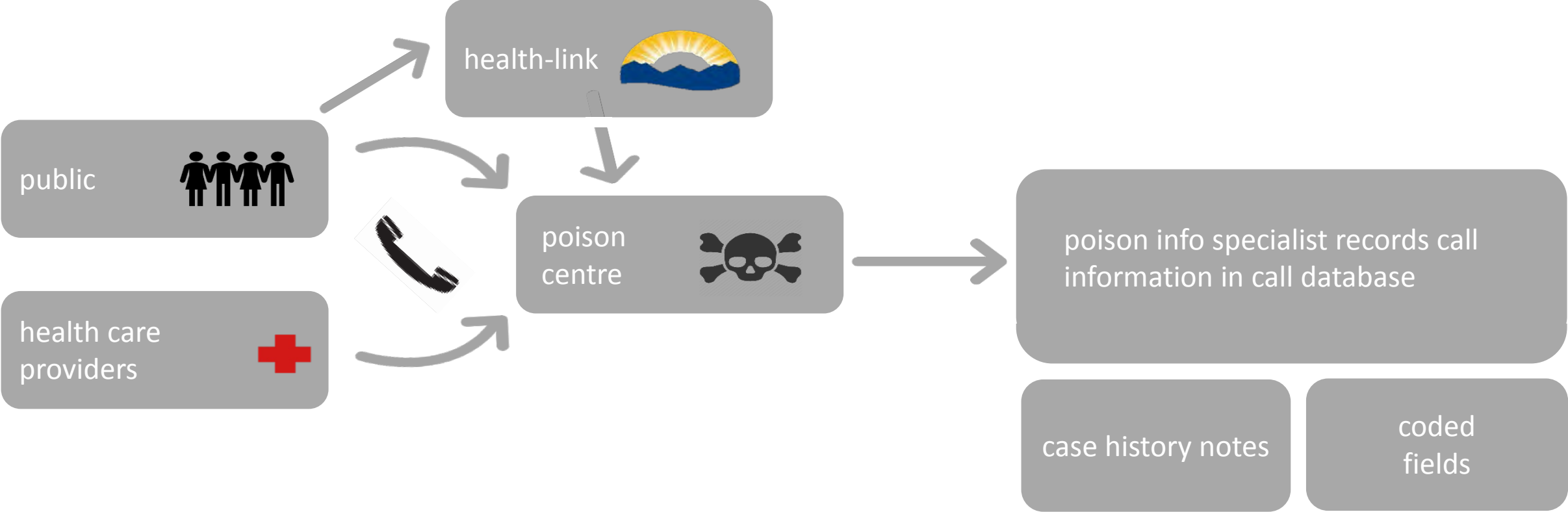




Background

- Cannabis legalized October 17, 2018
 - sale of cannabis became legal
 - sale of edible cannabis products remained illegal
- US poison centres reported increased numbers of calls
 - especially children consuming edible products
- We queried whether similar increases occurred in BC immediately prior to and following cannabis legalization

Calls taken and recorded at the BC Drug and Poison Information Centre (DPIC)



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Reason	N/A	▼
Exposure Site	N/A	▼
Caller Site	N/A	▼

Call records at BC DPIC

Date of Call:	2018-05-15	Tuesday	11:00:00	Case Number:	XXXX
Date of Exposure:	2018-05-15	Monday	10:00:00	Center:	DPIC

Patient:	
Age/Sex:	44 year/Female
Date of Birth:	
Phone Number:	
Weight:	
Personal MD/PHN:	NA

Caller Name:	Jane Doe	Rln:	SELF
Caller Phn:			
City/Prov/PostalCode:	VANCOUVER, BC, CAN Z9Z9Z9		
Caller Site:	Own Residence		

Time Since Exposure at Time of Initial Call 1 hour

Substances *****

Number of Encoded Substance(s): 1

1	Substance:	MARIJUANA IN BROWNIE
	Mdx:	MARIJUANA, PLANT
	Generic Match:	MARIJUANA
	Quantity:	1
	Certainty:	UNKNOWN
	Form:	SOLID

History

11:00 – 15-05-2018 (“name of Poison Information Specialist”) Healthy 44 year old woman ate 1 brownie containing marijuana an hour ago. Is feeling drowsy and lethargic.

Have friend stay with her, she should be improving slowly.

I will call back at 14:00 – agreed.

=====(Edited: 15-05-2018 -14:05:00 by “name of Poison Information Specialist”)====Spoke with caller. She is dehydrated but feeling better. Case is now closed.

=====(Edited: 15-05-2018 -14:35:00 by “name of Poison Information Specialist”)=====

ROUTES: ROUTE(S) OF EXPOSURE INGEST

Encoded Symptoms: =====

RELATED
NERVOUS SYSTEM

Drowsy/lethargy / Related

Encoded Treatments: =====

No Treatment

Lab Values by Lab Group =====

None

AAPCC Coding Details/Others:

Victim: Human Multi-case:

Call Type: Exposure
Info Category: N/A - Exposure Call
Reason: Intentional/Abuse
Exp Site: Other Residence
Caller Site: Own Residence
CS Code: N/A
Pt Flow: Managed on Site (non-HCF)
Exp Acuity: Acute
Exp Duration: N/A
Hosp Flow: N/A
Init HCF: N/A
Outcome: Minor effect
Duration: Unknown Duration
Case Status: CLOSED

Identification of cannabis exposure calls, 2013 – 2018

Call records at BC DPIC

```
graph TD; A[Call records at BC DPIC] --> B[Coded as cannabis]; A --> C[Not coded as cannabis but evidence via a free text search];
```

Coded as cannabis

Not coded as cannabis but
evidence via a free text search

Included if evidence of cannabis in the case history notes → **2318**

Excluded:

1. Information-only
2. Only evidence of cannabis was a toxicology screen
3. Animals
4. Miscoded as cannabis
5. Outside BC

Fields accessed, created and analyzed

Fields assessed for data quality and retained as is

Age	Substance	Patient flow (case management site)
Unit of age	Substance formulation	Hospital flow (management of cases referred to hospital)
Unknown age notes	Substance quantity	Outcome
Sex	Substance quantity unit	Exposure site
Exposure date	Therapy	Caller type
Call date	Treatment	
Reason for exposure	Symptoms	

Fields accessed, created and analyzed

Fields verified and expanded through information in case history notes

Exposure to substances in addition to cannabis: alcohol, illicit drugs and harm substances

Exposure Site

Route of exposure

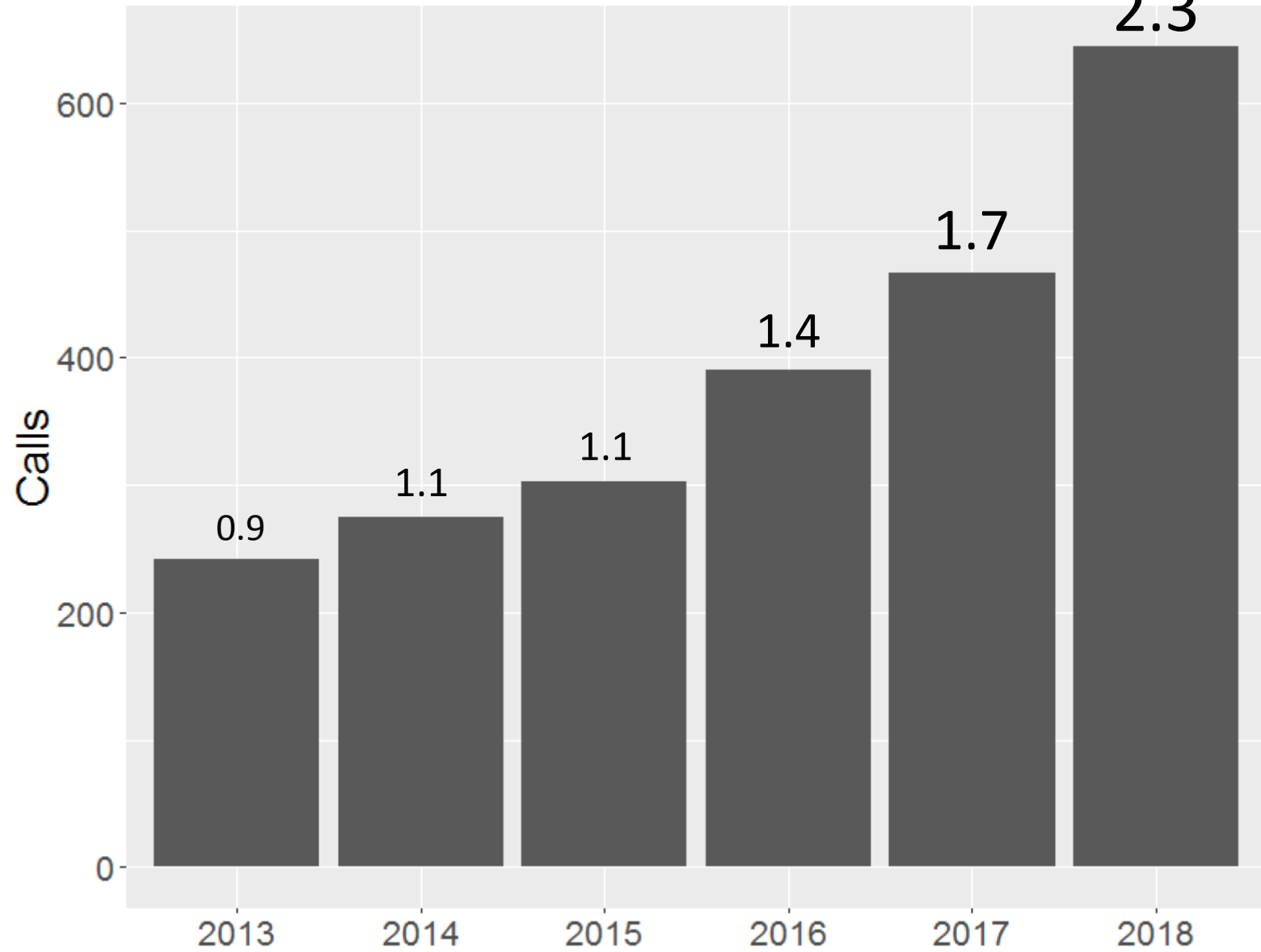
Caller type

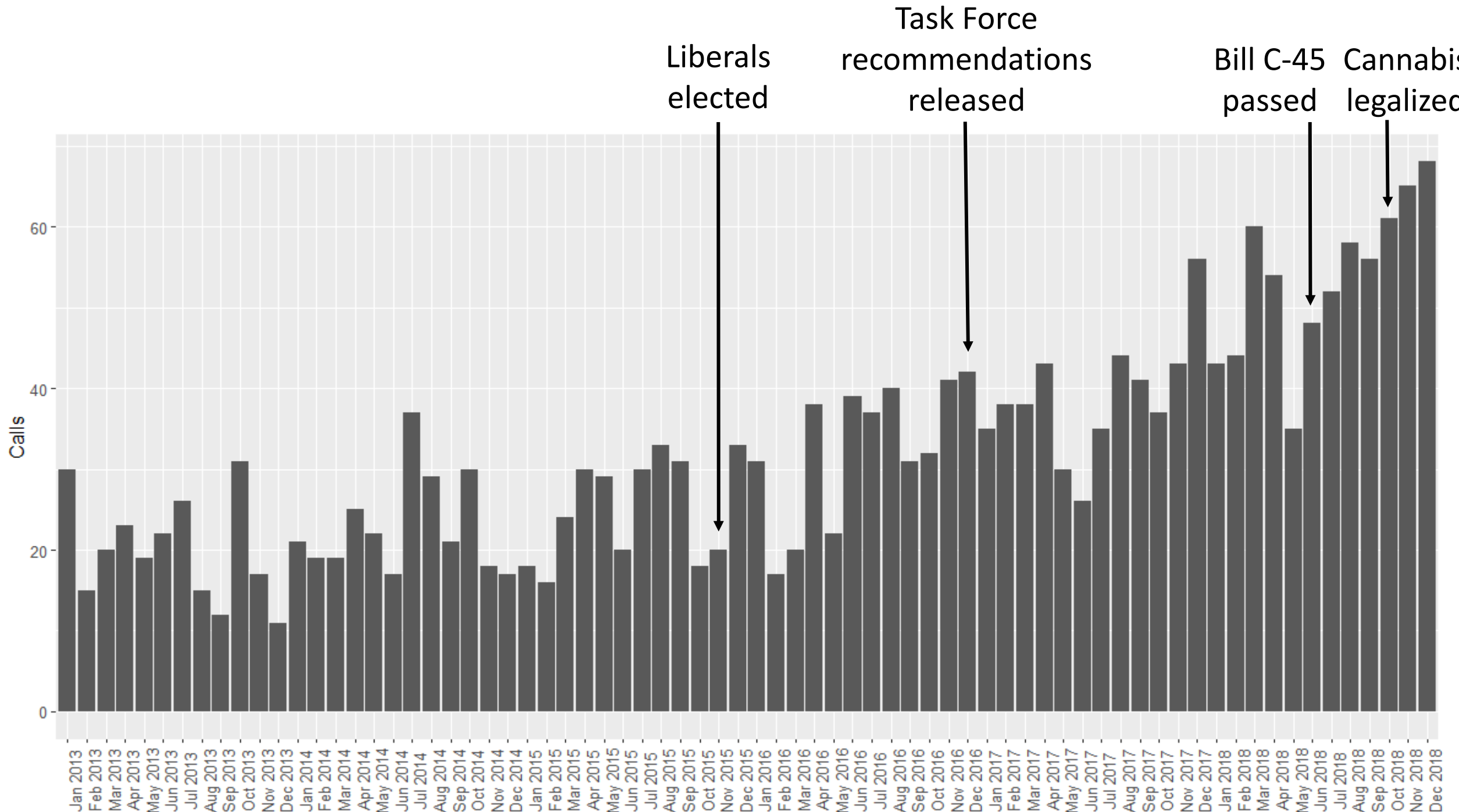
Fields accessed, created and analyzed

New fields created from case history notes
Purpose of cannabis use
Motivation for call to the poison centre
Source of cannabis
Past history of cannabis use
Symptoms for which there is no code

Cannabis exposure calls, 2013-2018

% of all exposure calls to DPIC





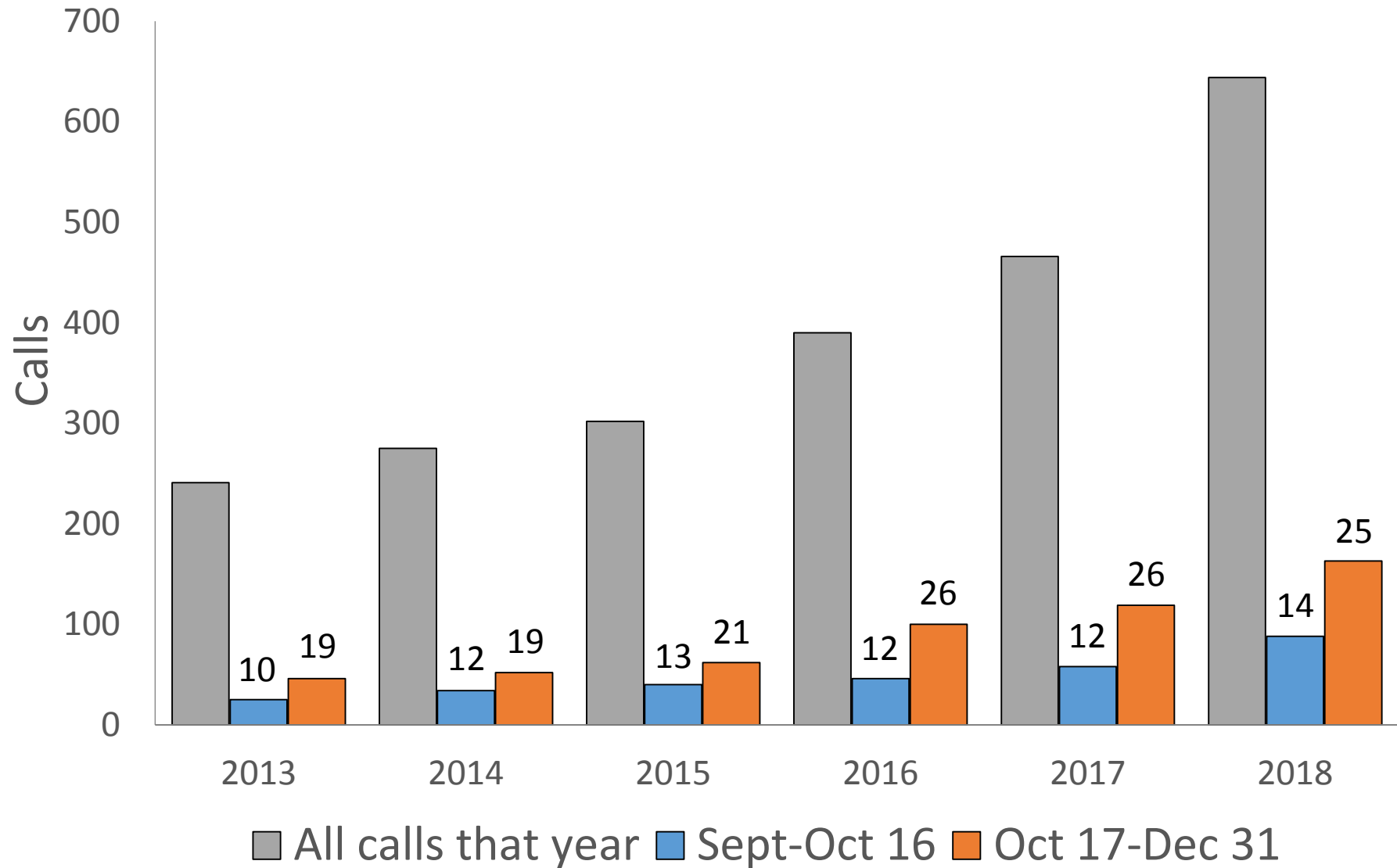
Liberals
elected

Task Force
recommendations
released

Bill C-45
passed

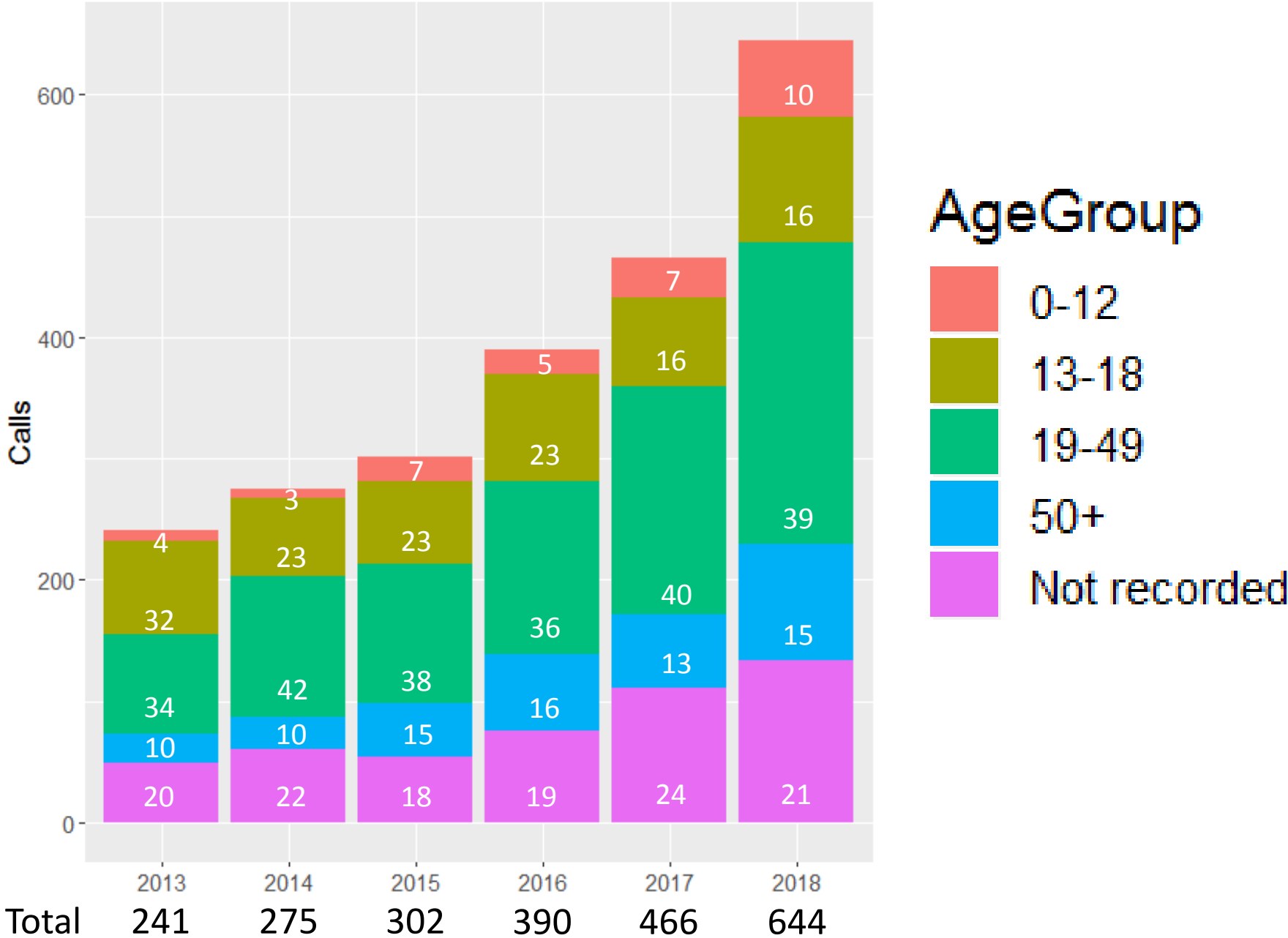
Cannabis
legalized

Cannabis exposure calls, 2013-2018, with percent received Sept-Oct 16, and Oct 17-Dec

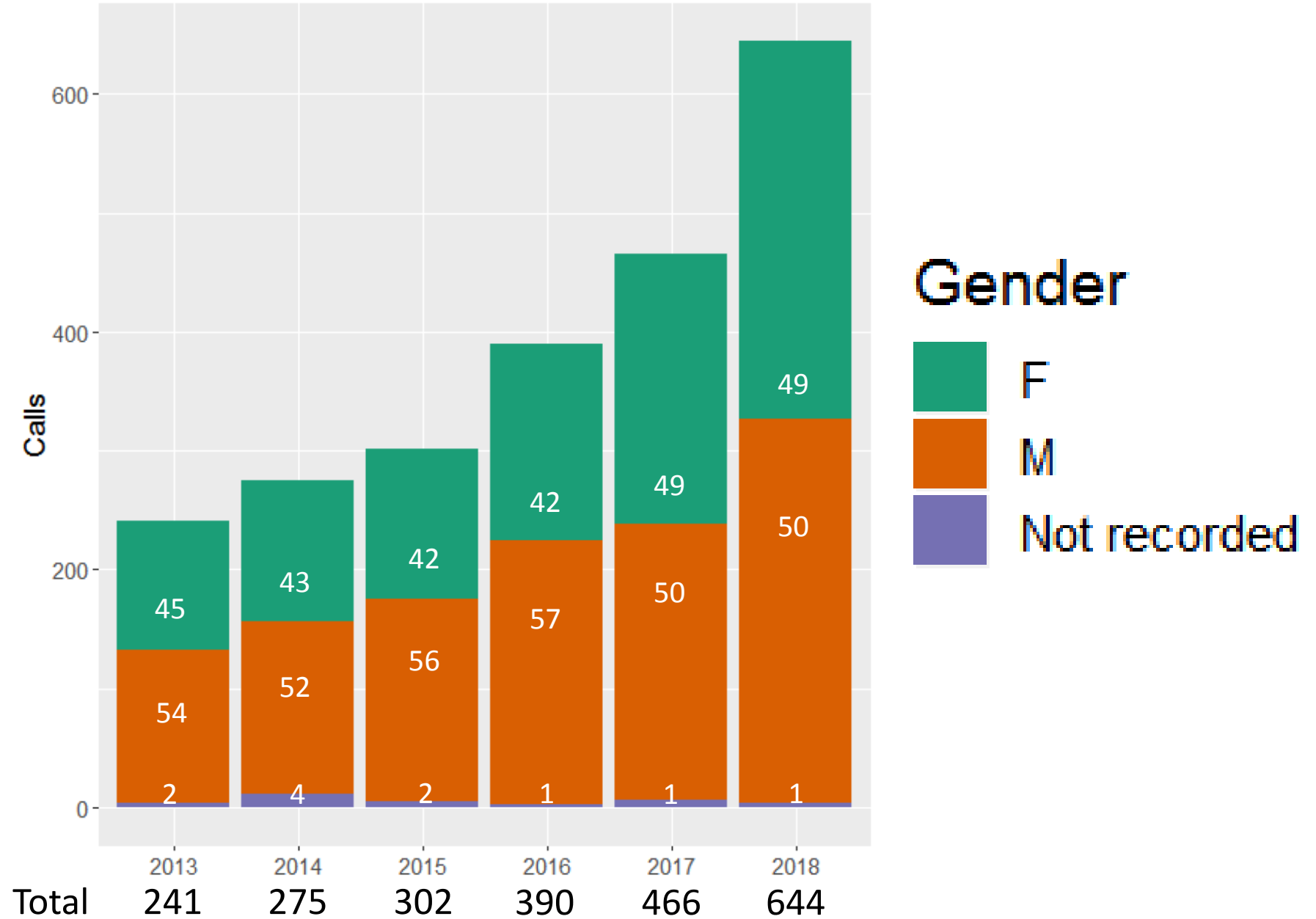


Time period	Time block	% of time in period	% of calls in period	Ratio
Pre-election of Liberal party	Jan 2013- Nov 3 2015	48	33	0.69
Election up to Task Force recommendations	Nov 4 2015- Dec 12 2016	19	18	0.95
Task Force recommendations up to Bill C-45	Dec 13 2016- May 31 2018	25	32	1.28
Bill C-45 up to legalization	June 1 2018- Oct 16 2018	6	11	1.83
Post-legalization	Oct 17 2018- Dec 2018	2	7	3.50

Cannabis exposure calls by age, 2013-2018



Cannabis exposure calls by gender, 2013-2018

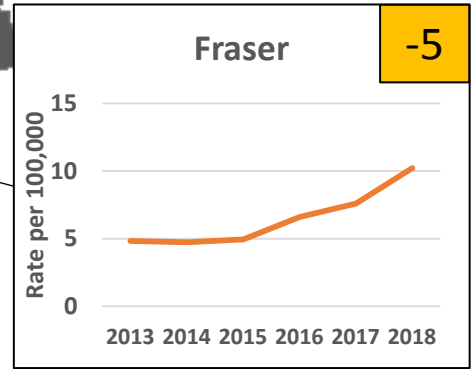
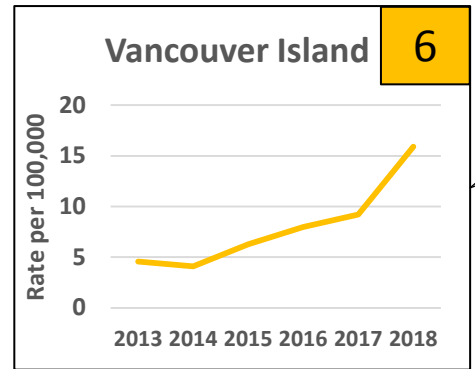
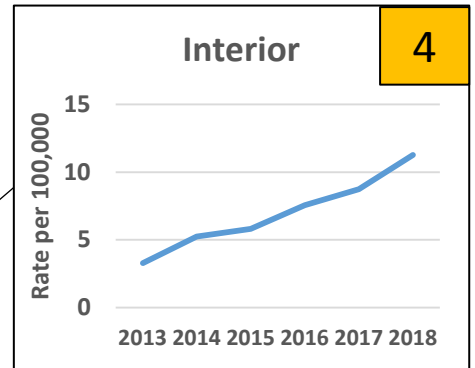
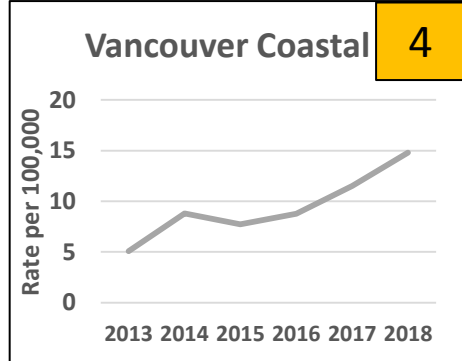
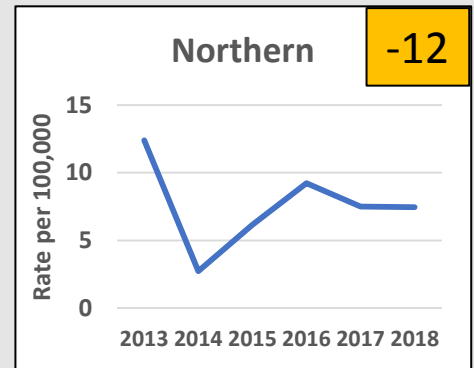


Cannabis exposure calls by Health Authority, 2013-2018

BC Health Authority

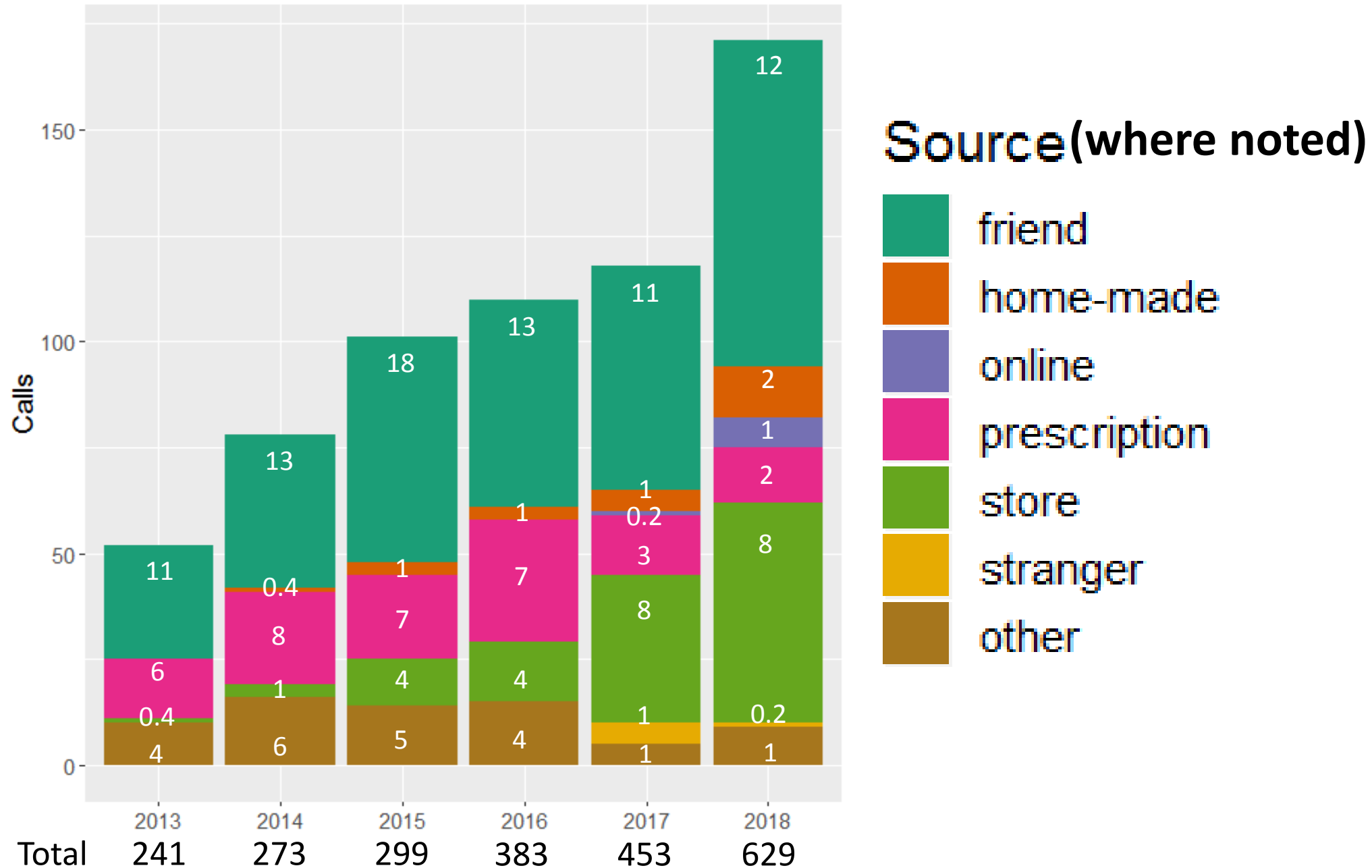
- Northern
- Interior
- Fraser
- Vancouver Island
- Vancouver Coastal

% change in relative proportion, 2013-2018

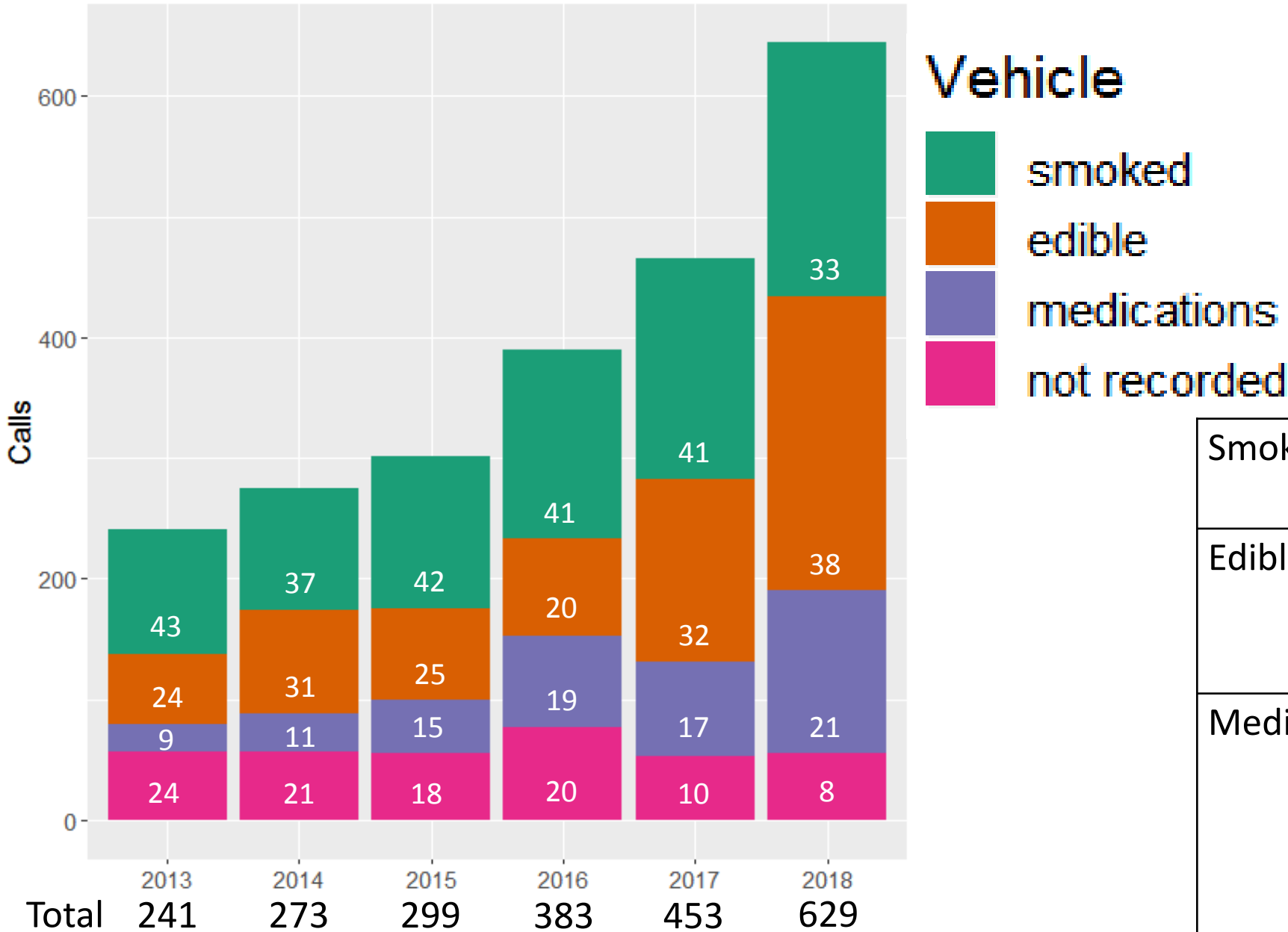


Cannabis exposure calls by exposure source, 2013-2018

Source not recorded in 73% of cases



Cannabis exposure calls by vehicle, 2013-2018



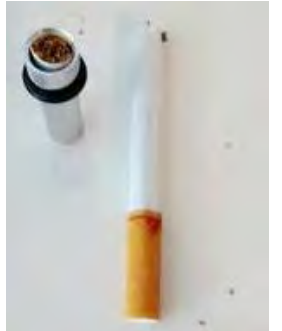
Smoked	Exposure to cannabis via inhalation
Edible	Exposure to food/beverage products containing cannabinoids
Medication	Exposure to pills, tablets, capsules, concentrates, nabilone (synthetic cannabinoid), tinctures, oils, etc.

Decreased

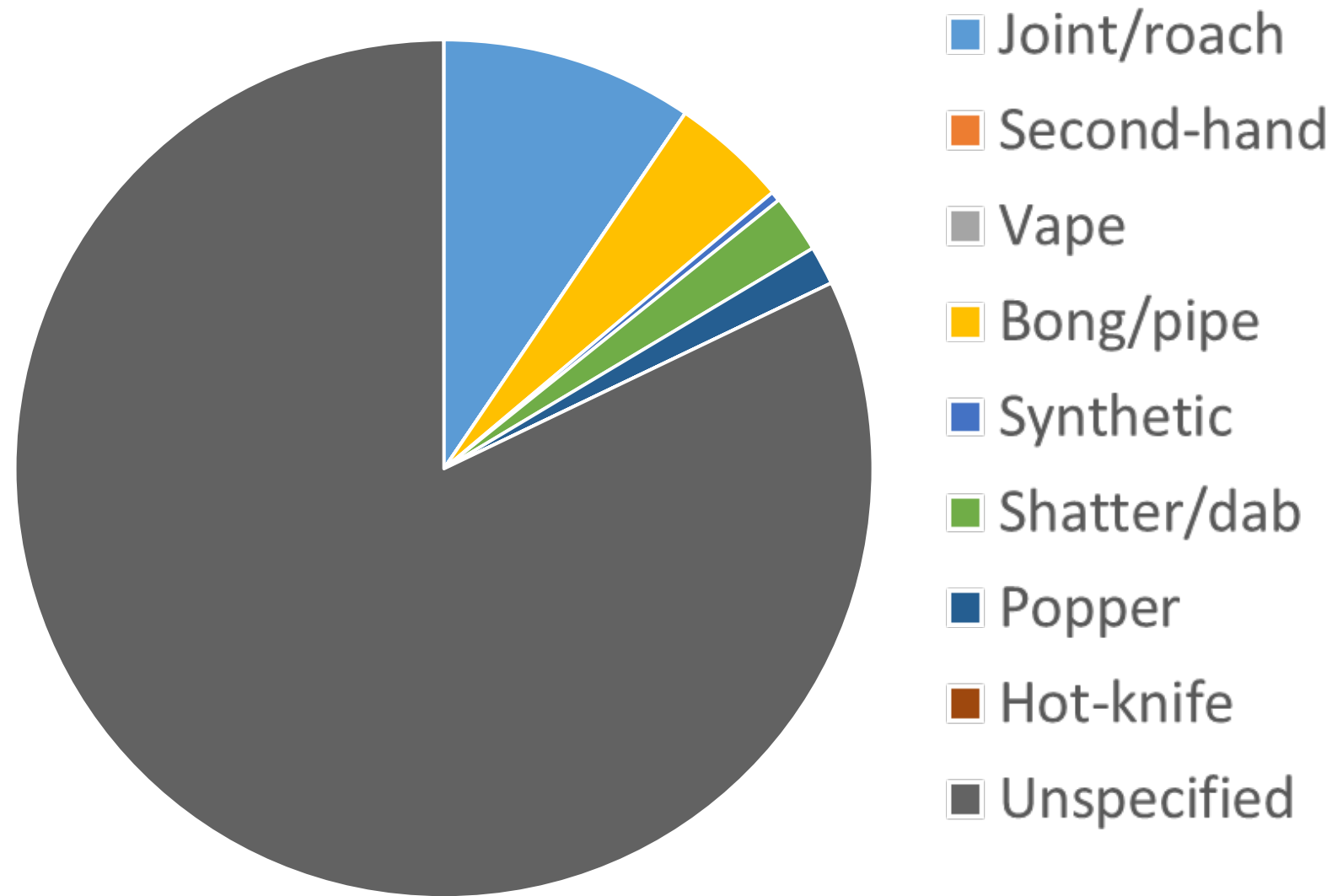
Increased

What smoked products were used?

%	2013	2014	2015	2016	2017	2018
Joint/roach	14	13	18	11	12	12
“Second-hand”	7	6	6	4	2	0
Vape	0	0	0	1	0	3
Bong/pipe	5	3	4	2	3	5
Synthetic	0	1	0	0	0	1
Shatter/dab	0	3	4	3	4	4
Popper	0	0	0	1	1	1
Hot-knife	0	0	0	1	1	0
Unspecified	75	74	67	78	79	74



What smoked products did teens 13-18 years old use, 2013-2018?



Decreased

Increased

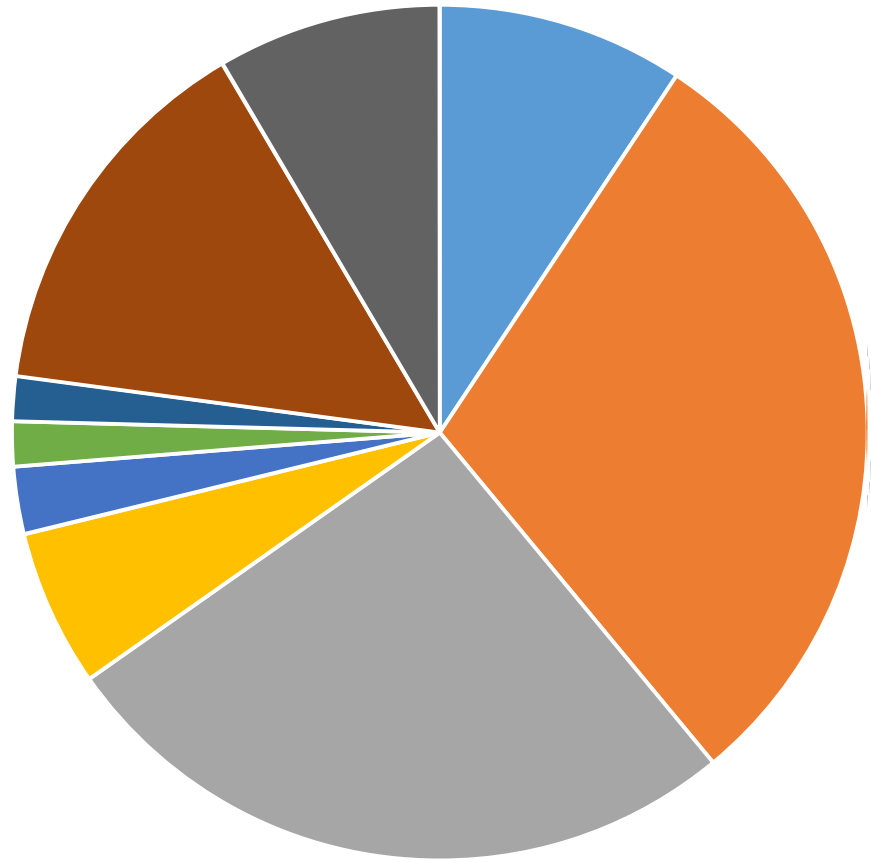
What edibles were used?

%	2013	2014	2015	2016	2017	2018
Brownie	47	36	28	27	14	13
Cookie	41	53	30	38	29	24
Candy/gummy	0	1	8	12	17	29
Chocolate	2	2	4	6	9	6
Edible oil/butter	0	1	3	0	7	1
Tea/drink	3	1	4	5	1	0
Bread/square/loaf	0	0	3	1	2	1
Muffin	2	5	3	0	1	1
Cake	2	4	4	0	2	1
Other (inappropriate)*	2	6	12	8	3	4
Unspecified	2	2	1	3	14	20

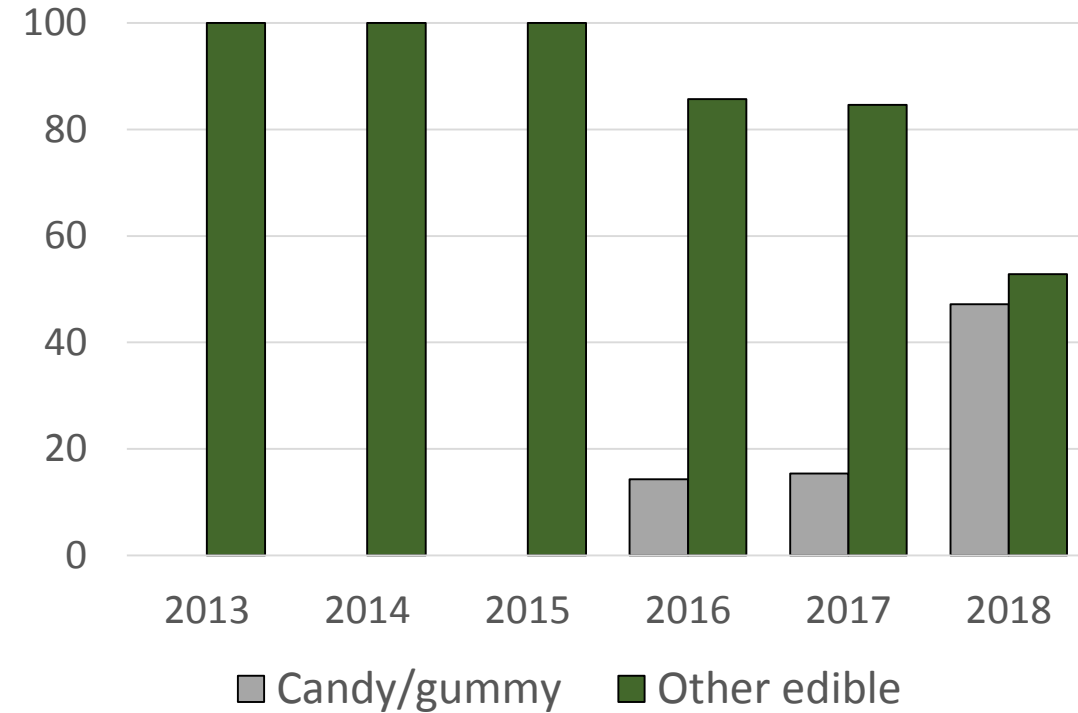
*includes joints, vaporizer liquid, shatter



What edibles were children 12 years and younger exposed to?



2013-2018



*includes joints, vaporizer liquid, shatter

Decreased

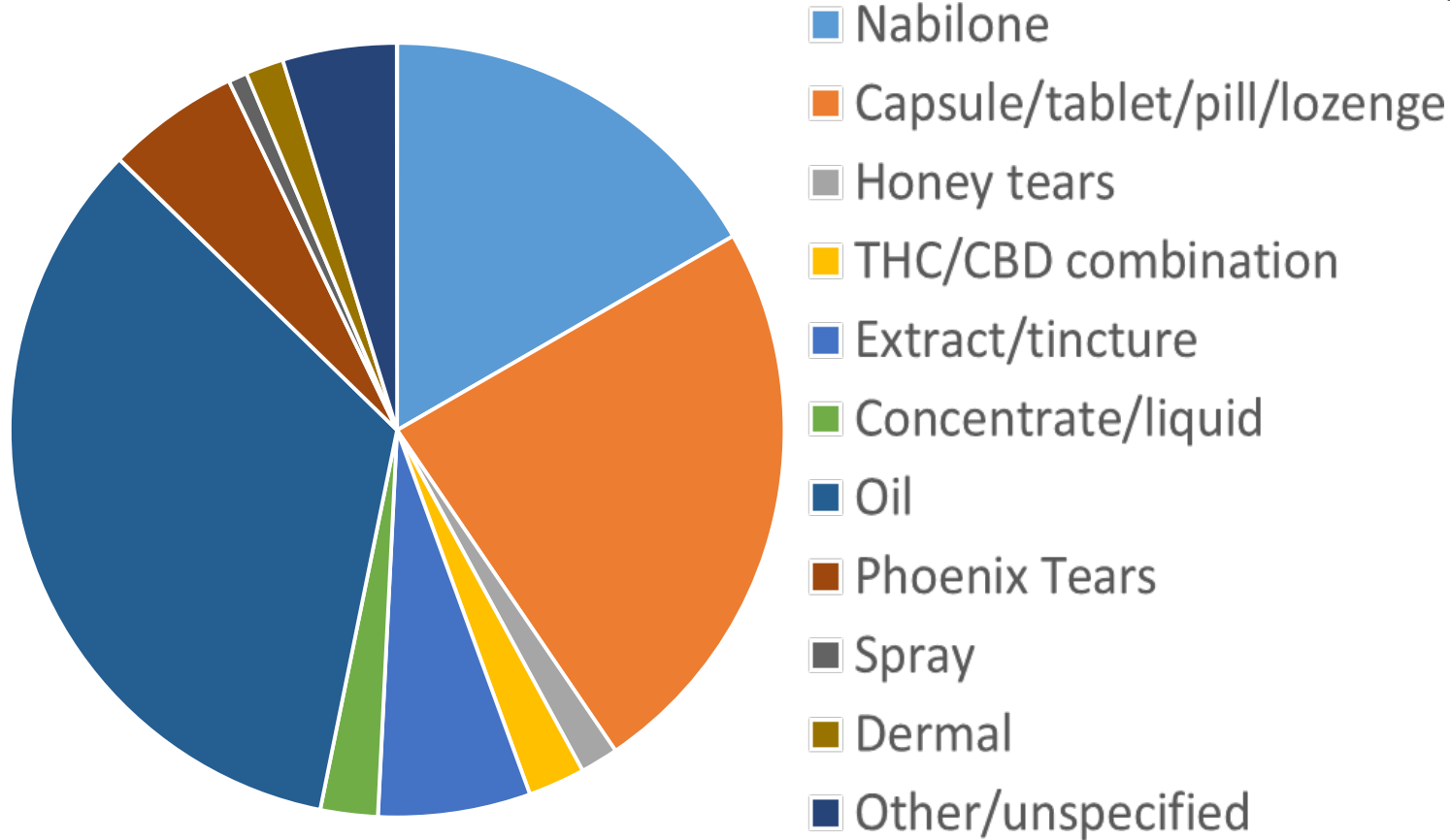
What “medical cannabis” products were used?

Increased

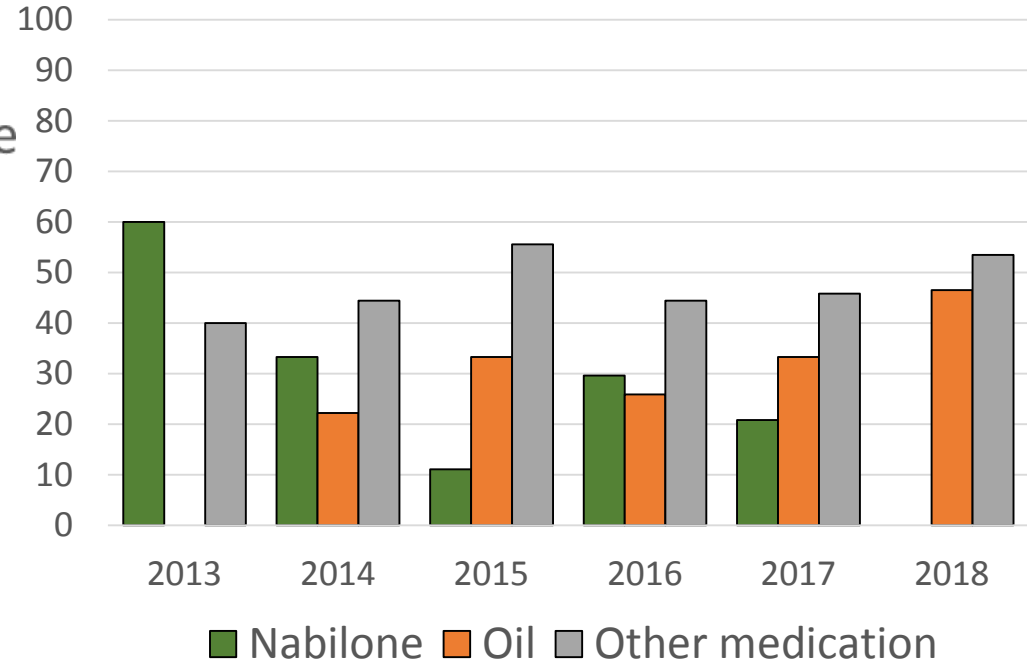
%	2013	2014	2015	2016	2017	2018
Nabilone	64	43	29	20	19	4
Capsule/tablet/pill/lozenge	5	13	22	34	24	31
Honey Tears	0	0	0	1	0	1
THC/CBD combination	0	0	0	4	1	8
Extract/tincture	9	3	2	0	8	5
Concentrate/liquid	5	3	7	1	3	2
Oil	5	27	22	28	37	38
Phoenix Tears	9	0	5	3	3	2
Spray	0	3	0	3	0	3
Dermal	0	0	0	3	0	3
Other/unspecified	5	7	12	3	6	3



What medical cannabis products did seniors use?

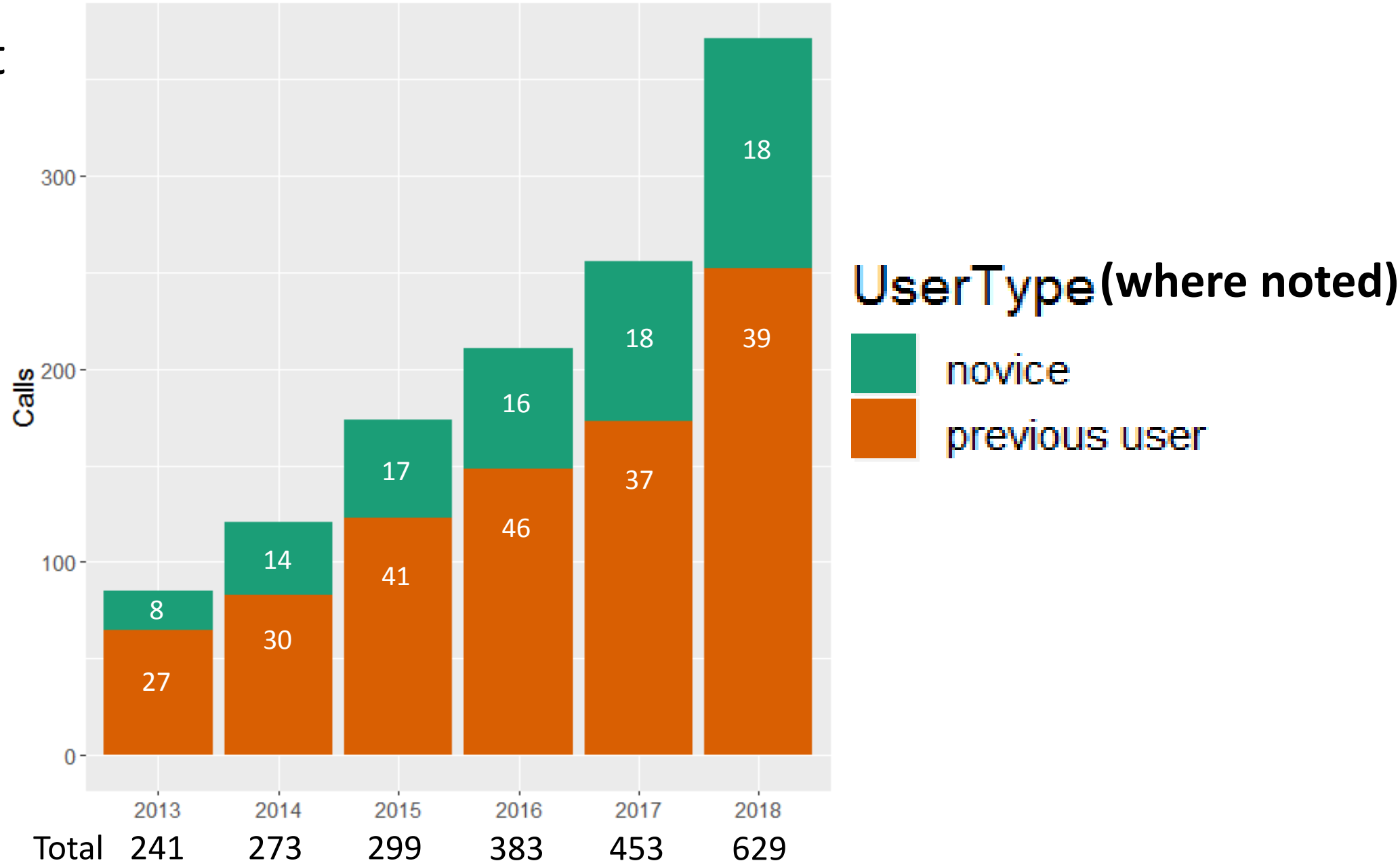


2013-2018

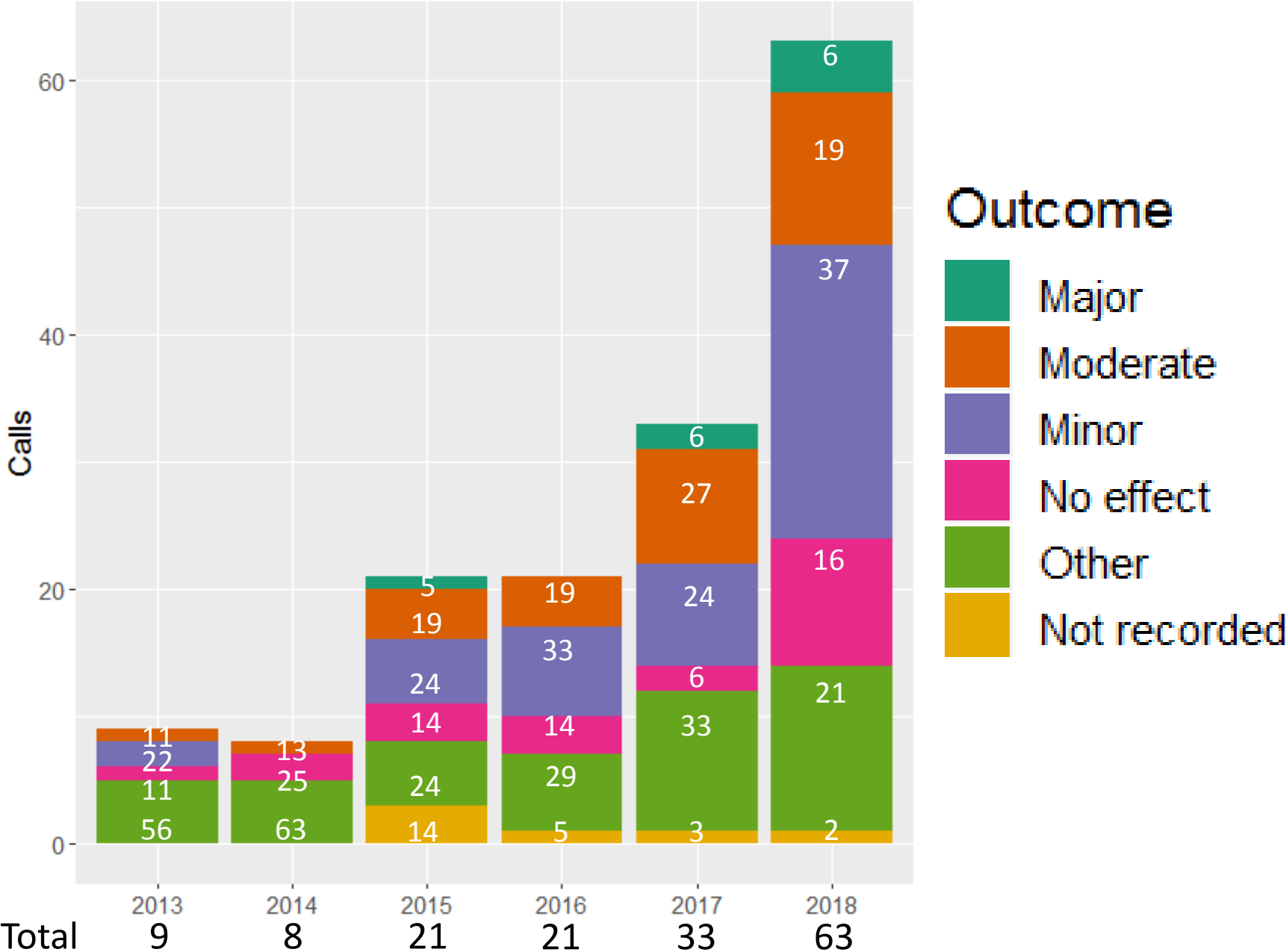


Cannabis exposure calls by user familiarity, 2013-2018

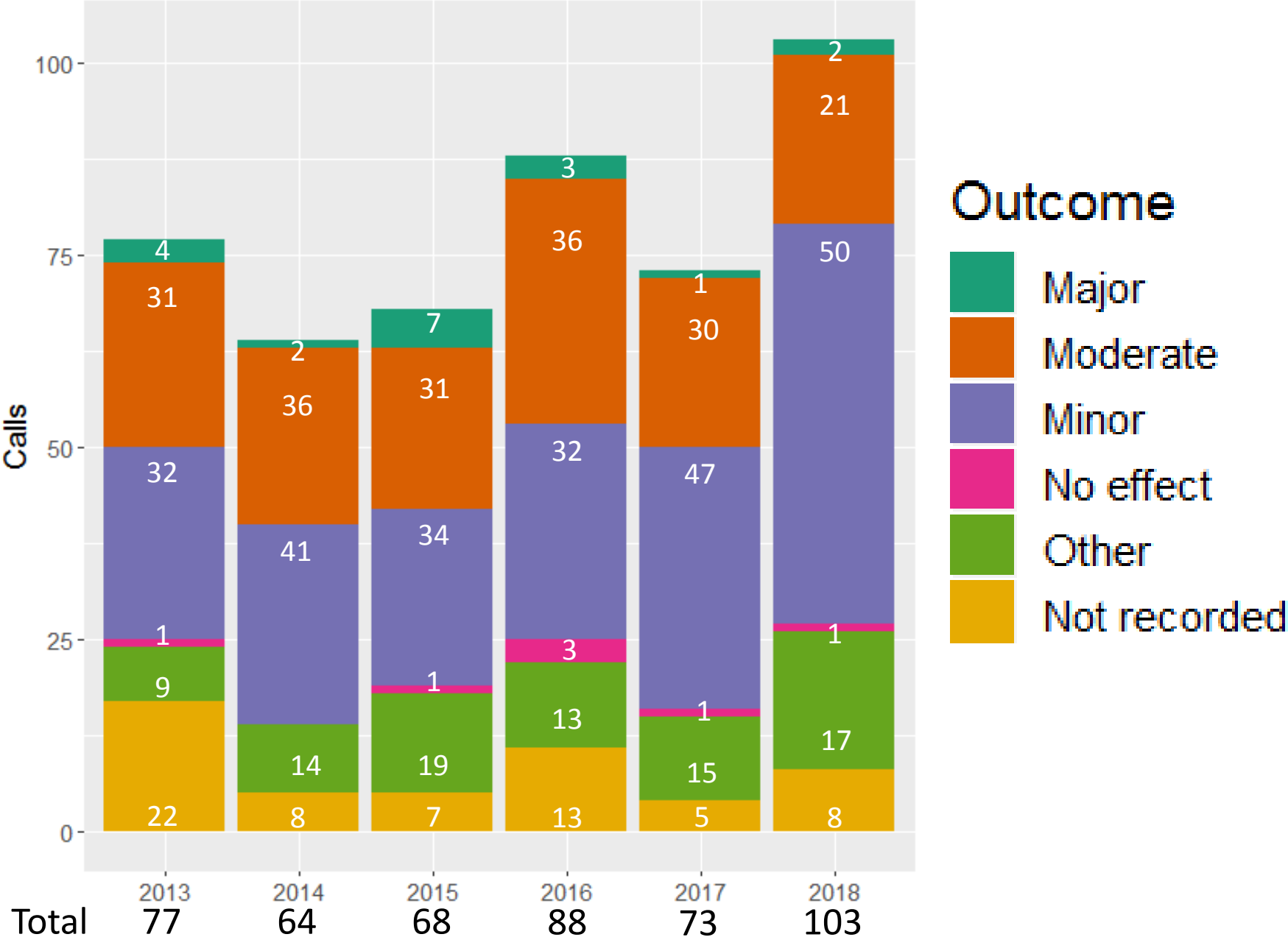
User type not recorded in 47% of cases



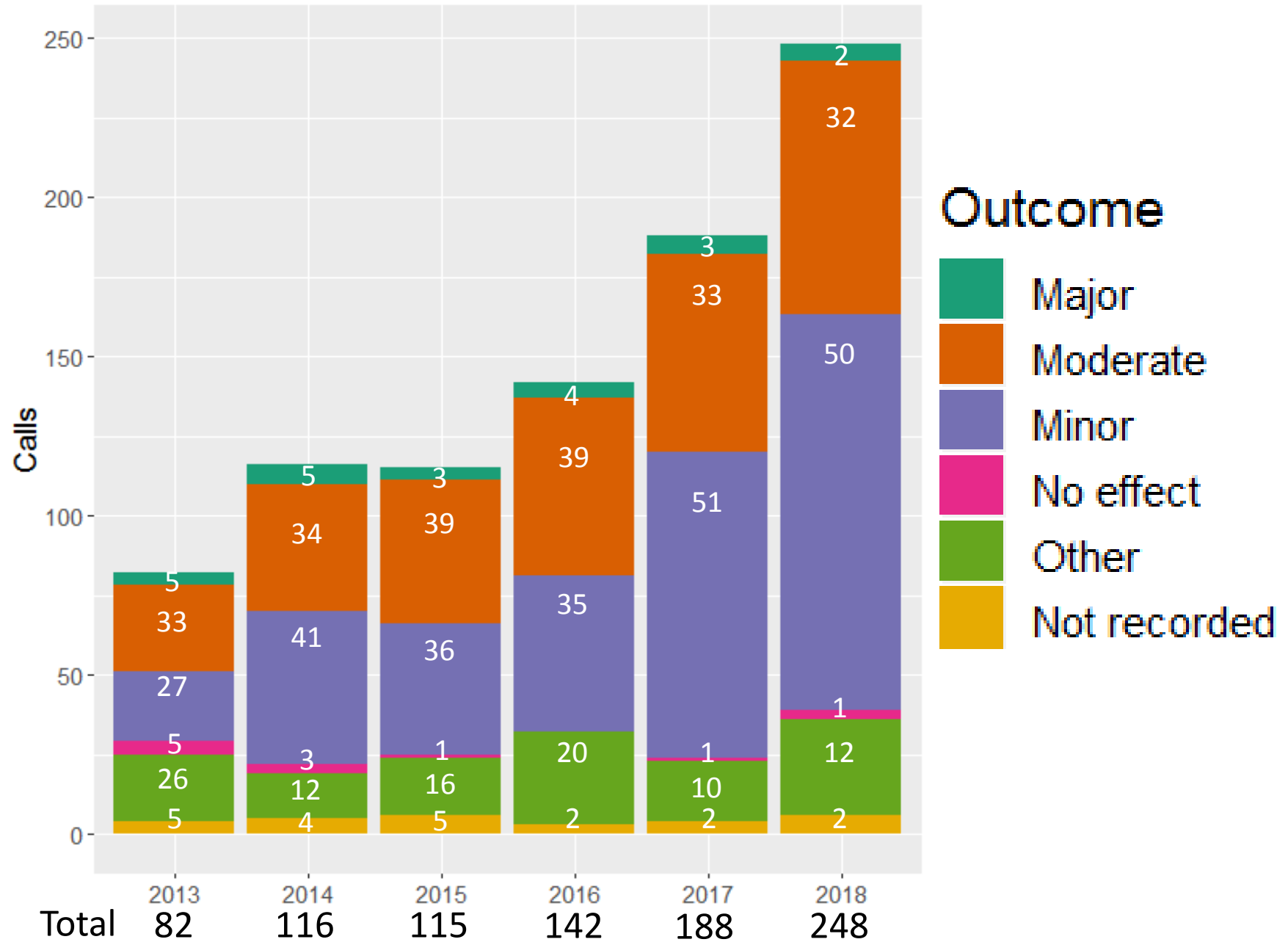
Clinical outcome of children 12 years and younger exposed to cannabis, 2013-2018



Clinical outcome of teens 13-18 years exposed to cannabis, 2013-2018

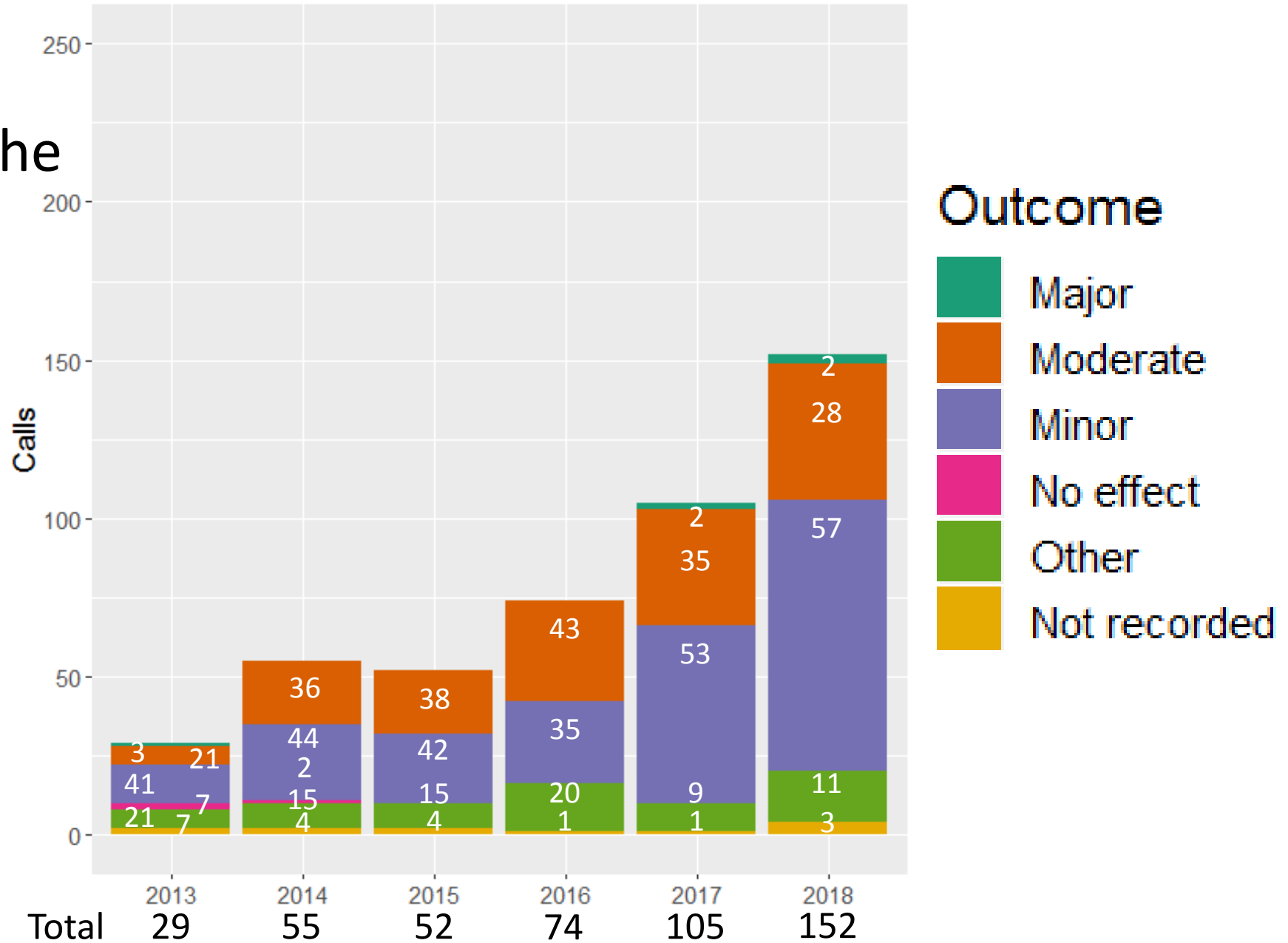


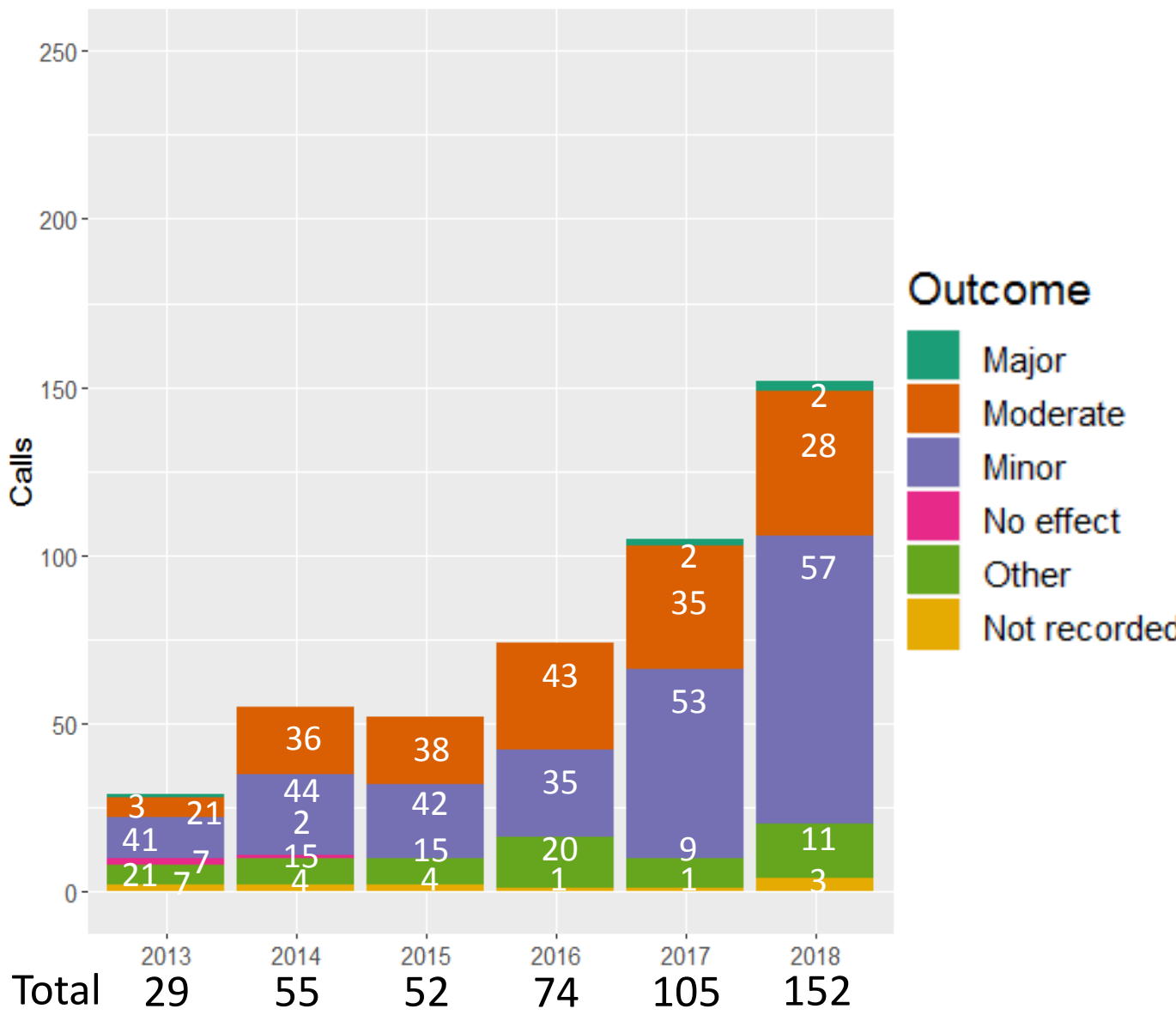
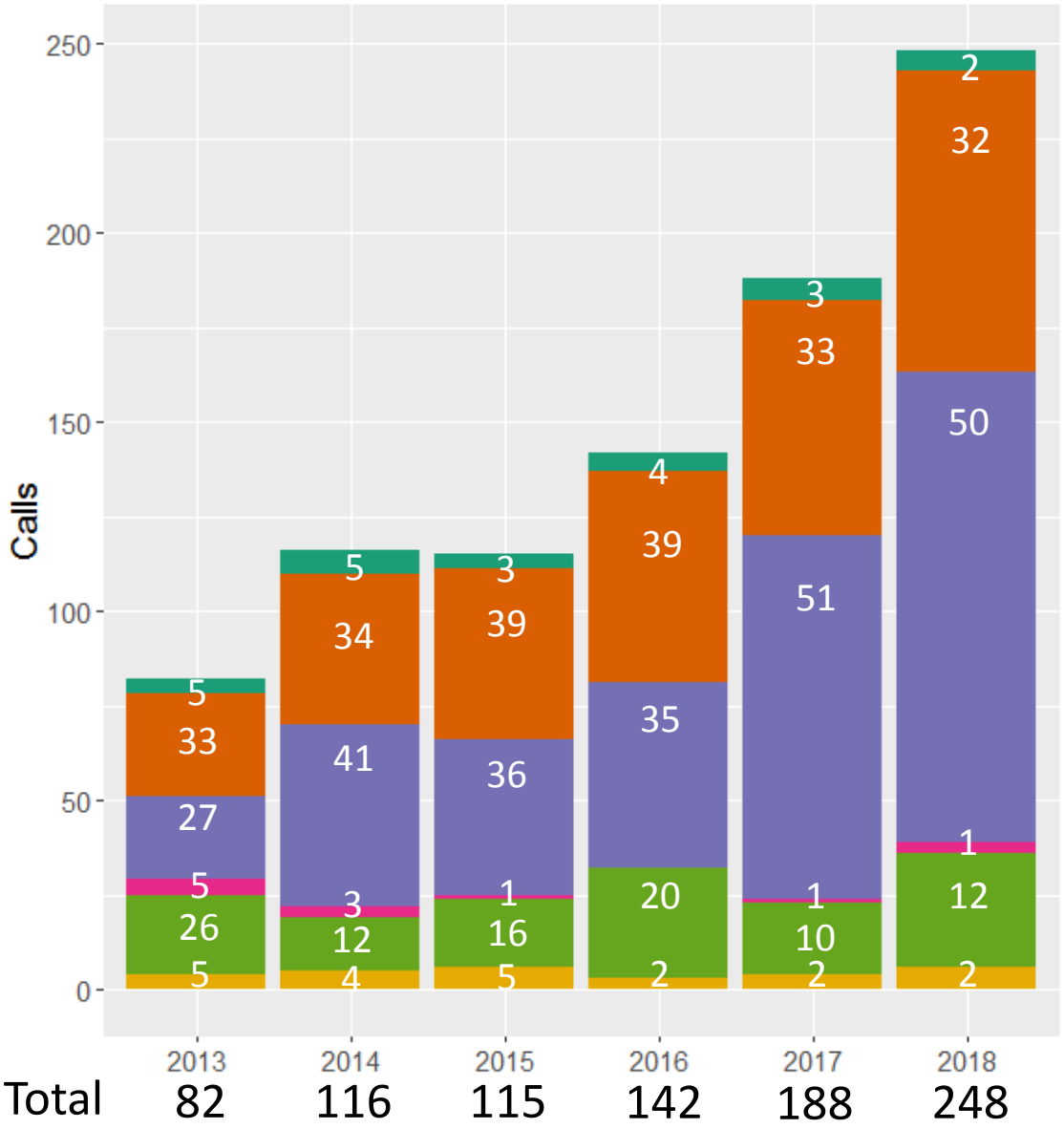
Clinical outcome of adults 19-49 years exposed to cannabis, 2013-2018



Clinical outcome of adults 19-49 years exposed to cannabis, 2013-2018

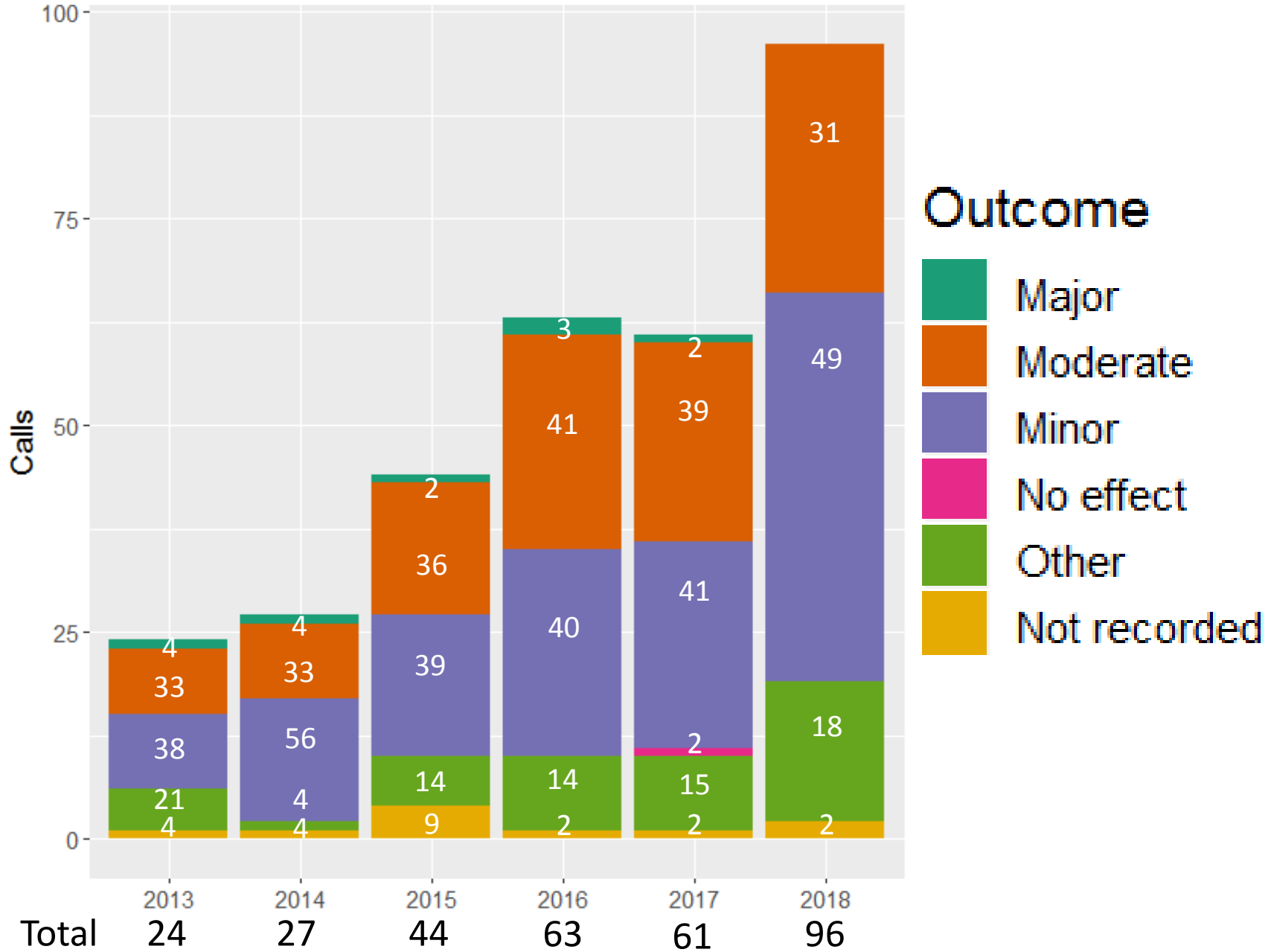
→ Calls where cannabis was the sole exposure substance





→ Calls where cannabis was the sole exposure substance

Clinical outcome of older adults 50 years and older exposed to cannabis, 2013-2018

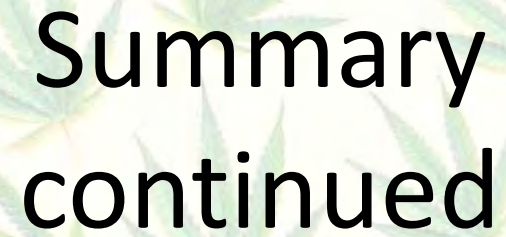




Summary

Looking at cannabis calls to BC DPIC from 2013-2018 we found:

- Calls to DPIC tripled between 2013 and 2018
- Proportion of calls about young children (0-12 years) and women increased from 4 to 10% and from 45 to 49%, respectively
- Proportion of calls from Vancouver Island increased the most (from 15 to 21%)



Summary continued

Looking at cannabis calls to BC DPIC from 2013-2018 we found:

- Proportion of calls about edibles and medications increased
 - Edibles (24 to 38%); especially candies
 - Medications (9 to 21%): especially oils, capsules, THC/CBD combinations
- Increasingly obtained from stores/online (0 to 9%)
- When taken with other substances the proportion with more severe clinical outcome was higher (for adults)



Interpretation

- Consistent increase in cannabis calls; more rapid starting in 2015
 - Seasonal with end-of-year peaks starting in 2015
- Illegal products purchased from stores/online
 - Adverse effects due to unregulated products
- Young children accidentally exposed to edibles
- When used alone, cannabis exposures most often resulted in minor medical outcomes for adults



Interpretation continued

Potential reasons for changes in cannabis calls

- Likely more a result of continued normalization rather than key dates
 - Legalization was also co-occurring in US states
 - Dispensaries popping up during this time period
 - Minimal police enforcement
 - Increased acceptance of legalization
 - BC has long been “cannabis friendly”
 - Appearance of new cannabis products

Thank you and acknowledgments

The staff at DPIC

Dennis Leong

Debra Kent

Victoria Wan

Roy Pursell

Emma Cumming

Adrian Grehan

Sarah Henderson

Tom Kosatsky