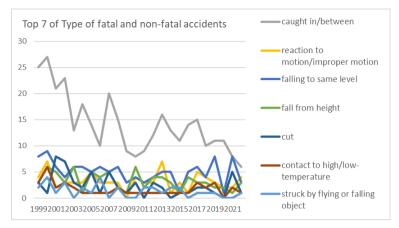
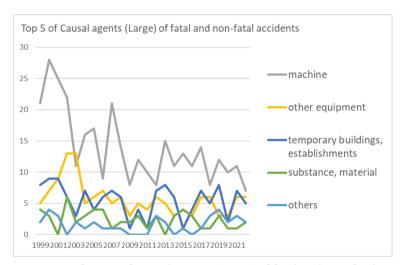
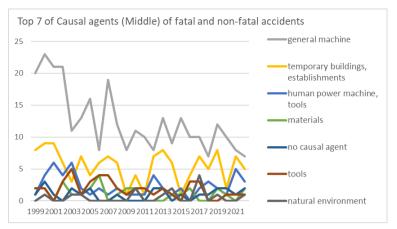
Transition of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



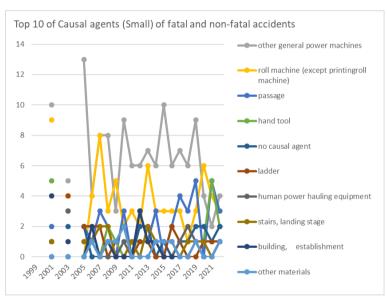
Transition of Top 7 of Type of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



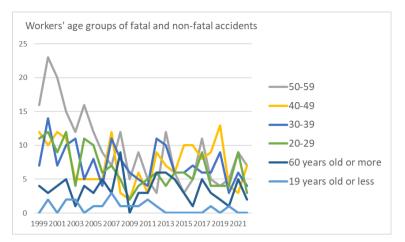
Transition of Top 5 of Causal agents (Large) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



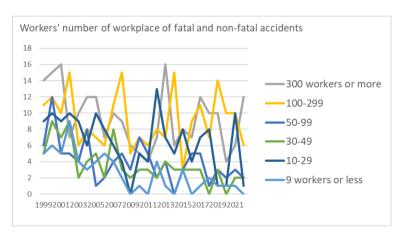
Transition of Top 7 of Causal agents (Middle) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



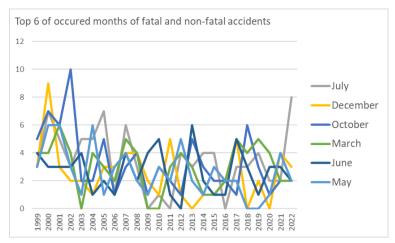
Transition of Top 10 of Causal agents (Small) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



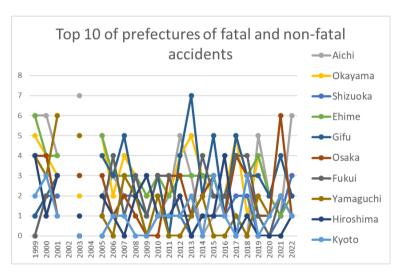
Transition of workers' age groups of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



Transition of workers' number of workplace of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



Transition of Top 6 of occured months of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)



Transition of Top 10 of prefectures of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Transition of Type of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Type of accidents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Type of accidents
caught in/between	25	27	21	23	13	18	14	10	20	15	9	8	9	12	16	13	11	14	15	10	11	11	8	6	339	caught
																										in/between
reaction to																										reaction to

motion/improper	4	7	2	3	3	3	5	3	3	3		4	3	3	7	1	3	1	5	4	3	2	2	4	78	motion/improper
falling to same level	8	9	6	4	6	6	5	6	5	6	3	4	3	4	5	5	1	5	6	4	8	1	8	3	121	falling to same
fall from height	3	6	5	3	6	1	5	4	5	2	1	6	2	4	4	3	1	4	3	3	2	2	1	3	79	fall from height
cut	3	1	8	7	3	2	5	1	5	2	1	3		3	2		1	1	2	2	1		5	1	59	cut
contact to high/low- temperature	3	6	2	3	2	1	1	1	1	2	1	1	1	1	1	1	1	1	3	2	3		2	1	41	contact to high/low- temperature
struck by flying or falling object	2	4	1	3		2	1	4		2			2	2	1	2	2		1	1	1			1	32	struck by flying or falling object
crash		2	1			3	1	1	1	4	1		1	1	2	1	1	1	2		2	1	1	1	28	crash
contact to harmful substance				1		2	1		1					3		2	2	1	1					1	15	contact to harmful substance
unclassifiable			1																					1	2	unclassifiable
electric shock																								1	1	electric shock
crashed by	2		2	2	1		1		1	1		1	1	1	1	1	5		1	1			2		24	crashed by
collapse		2		2		1			1					1									1		8	collapse
others			1							1											1		2		5	others
explosion				2																1		1			4	explosion
fire				2								1													3	fire
injury to the sole of the foot					1	1																			2	injury to the sole of the foot
drown			1																						1	drown

burst			1																						1	burst
traffic accident (public														1											1	traffic accident
road)																									ı	(public road)
traffic accident						1																			1	traffic accident
(others)						ı																			1	(others)
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

Transition of Causal agents (Large) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Causal (L) agents
machine	21	28	25	22	11	16	17	9	21	14	8	12	10	8	15	11	13	11	14	8	12	10	11	7	334	machine
other equipment	5	7	9	13	13	5	6	7	5	6	3	5	4	6	5	3	4	3	6	6	3	3	6	6	139	other equipment
temporary buildings, establishments	8	9	9	6	3	7	4	6	7	6	1	4	1	7	8	6	1	4	7	5	8	2	7	5	131	temporary buildings, establishments
substance, material	4	3		6	2	3	4	4	1	2	2	3	1	3		3	4	3	1	1	3	1	1	2	57	substance, material
others	2	4	3		2	1	2	1	1	1				3	2		1		1	3	4	2	3	2	38	others
environment		1			1	1						2			1	2			4		1			1	14	environment
crane, conveying	8	8	4	3	3	7	3	1	4	7	2		4	5	3	3	4	5	4	2	1		3		84	crane, conveying machine
load	2	4	2	5		1	3	2	4	2		2	2	4	5	1	1	2	2	3			1		48	load

Transition of Causal agents (Middle) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Causal (M) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		Causal (M) agents
general machine	20	23	21	21	11	13	16	8	19	12	8	11	10	8	13	9	13	10	10	7	12	10	8	7	300	general machine
temporary buildings, establishments	8	9	9	6	3	7	4	6	7	6	1	4	1	7	8	6	1	4	7	5	8	2	7	5	131	temporary buildings, establishments
human power machine, tools	1	4	6	4	6	2	1	2	1	2	1	1	1	4	2	1	2		2	3	2	1	5	3	57	human power
materials	2	2		3	1	1	2	4		1	2	2				1	1	2			2	1		2	29	materials
no causal agent	1	3	1		2	1	2			1				2	2		1		1	1	2	2	1	2	25	no causal agent
tools	2	2		3	5	1	3	4	4	2	1	2	2	1	2	1		3	3			1	1	1	44	tools
natural environment		1			1	1						2			1	2			4		1			1	14	natural environment
chemical facilities	2	1		1		1																1		1	7	chemical facilities
kiln, caldron				1								1			1									1	4	kiln, caldron
conveying machine	6	5	4	3	2	6	3	1	4	7	2		1	4	2	3	4	5	3	2			2		69	conveying machine
load	2	4	2	5		1	3	2	4	2		2	2	4	5	1	1	2	2	3			1		48	load
																										hazards,

hazards, harmful substances	2	1		3	1	2	2		1	1		1	1	3		2	3	1	1	1	1	1		28	harmful
substances																									substances
other equipments,			3	3	2	1	2	1		2		1	1	1		1	2		1		1		2	22	other equipments, facilities
power transmission mechanism		2	2	1		1	1		1	2					1	1		1	3	1		1		18	power transmission mechanism
metal manufacturing machine	1	3	1			1		1	1						1	1								10	metal manufacturing machine
vehicle		2			1	1							3	1					1			1		10	vehicle
other causal agent	1	1						1	1					1						1	2	2		10	other causal agent
crane	2	1													1						1			5	crane
pressure vessel				1							1									1				3	pressure vessel
unclassifiable			2																	1				3	unclassifiable
engine						1																1		2	engine
woodworking machine			1																			1		2	woodworking machine
construction machine												1							1					2	construction machine
electric equipment																				2				2	electric equipment
																									mobile

mobile silviculture																										silviculture
machine																										machine
welding equipment																										welding
welding equipment																										equipment
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

Transition of Causal agents (Small) of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

			1	1	1			1	1	1	1	1		·									1	1		
Causal (S) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Causal (S) agents
other general			10		5		13	4	8	8	3	9	6	6	7	6	10	6	7	6	9	4	2	4	133	other general
power machines			10		3		13		0	0	3	9								O		4	2		133	power machines
roll machine (except																										roll machine (except
printingroll			9		4			4	8	3	5	2	3	2	6	3	3	3	3	1	3	6	4	3	75	printingroll
machine)																										machine)
passage			2				2	1	3	2		3		3	1	3		2	4	3	5		5	3	42	passage
hand tool			5		3			1		2	1		1	1	1		1		1	1	1	1	5	2	27	hand tool
no causal agent			1		2		2			1				2	2		1		1	1	2	2	1	2	20	no causal agent
ladder					4		2	2	2		1	2		1	1			2	1			1	1	1	21	ladder
human power			1		3		1	1				1		3	1				1	2				1	17	human power
hauling equipment			I		3			ľ				I		3	1				1	2				•	17	hauling equipment
stairs, landing stage			1				1	1	2	2			1		2	1	1	1		1	1	1		1	17	stairs, landing stage
building,															_										15	building,
establishment			4		I			2						3											15	establishment
other materials								1		1	1	2				1	1	1			1			1	10	other materials
metal material					1		1	3			1										1	1		1	9	metal material

high/cold																							high/cold
temperature													1			2		1			1	5	temperature
environment																							environment
chemical facilities																			1		1	2	chemical facilities
other kiln, caldron																					1	1	other kiln, caldron
load		2		2	2	4	2		2	2	4	5	1	1	2	2	3			1		35	load
forklift			1	2	1		4	1		1	1	1	2	3	2	2				1		22	forklift
other equipment,		3	2	2	1		2		1	1	1		1	2		1		1				18	other equipment,
working platform, boot board		1			1	2	1	1			1	2			1	2		1		2		15	working platform, boot board
power transmission mechanism		2		1		1	2					1	1		1	3	1			1		14	power transmission mechanism
conveyor		1	1	1		1	1	1			3	1	1	1			1			1		14	conveyor
other tools			1	1		2	2			2		1	1		1	2						13	other tools
harmful substance				1		1					3			2	1			1				9	harmful substance
other hazards, harmful substances			1	1			1		1	1			2	1		1						9	other hazards, harmful substances
truck		2				1	1								2	1	1					8	truck
other temporary buildings, establishments		1	1	1								2				1	1		1			8	other temporary buildings, establishments
other causal agent					1	1					1						1	2		2		8	other causal agent
mixer, grinder		1		1		2				1					1							6	mixer, grinder
printing machine		1	2	2																1		6	printing machine

	 		 	 				 <u> </u>	<u> </u>				 				 	 <u> </u>	<u> </u>
other environments			1					2				1		2				6	other environments
other powered		1				2	1						1					5	other powered
conveying machines																			conveying machines
cars, bus,			1						3	1								5	cars, bus,
motorcycle																			motorcycle
power press		1			1	1												3	power press
scaffolding			1					1				1						3	scaffolding
unclassifiable		2													1			3	unclassifiable
circular sawing		1															1	2	circular sawing
machine		1															I .		machine
centrifugal machine						1	1											2	centrifugal machine
crane											1					1		2	crane
other vehicles														1			1	2	other vehicles
industrial dryer								1			1							2	industrial dryer
electric power															2			2	electric power
facilities																			facilities
slinging tool					2													2	slinging tool
lumber, bamboo				1									1					2	lumber, bamboo
engine																	1	1	engine
demolition machine														1				1	demolition machine
vehicle for high lift																			vehicle for high lift
work																		1	work
lathe											1							1	lathe
grinding machine,																			grinding machine,

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buffing machine										1						1	buffing machine
industrial robot															1	1	industrial robot
pressure vessel							1									1	pressure vessel
other pressure vessels													1			1	other pressure vessels
human power cranes											1					1	human power cranes
human power machine						1										1	human power machine
roof, beam, haze, crossbeam, principal rafter					1											1	roof, beam, haze, crossbeam, principal rafter
inflammable substance													1			1	inflammable substance
inflammable gas															1	1	inflammable gas
machine/equipment as load				1												1	machine/equipment as load
standing tree									1							1	standing tree
band sawing machine																	band sawing machine
wood planer machine																	wood planer machine
hollow chisel mortiser, wood borer																	hollow chisel mortiser, wood borer

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chamfering															chamfering
machine, router,															machine, router,
woodworking															woodworking
milling machine															milling machine
chain saw															chain saw
other woodworking															other woodworking
machines															machines
leveling,															leveling,
transporting or															transporting or
loading machine															loading machine
excavating machine															excavating machine
foundation work															foundation work
machine															machine
hardening machine															hardening machine
other construction															other construction
machines															machines
drill press, milling															drill press, milling
machine															machine
forging pressure															forging pressure
hammer															hammer
shearing machine															shearing machine
other metal															other metal
manufacturing															manufacturing
machines															machines
injection molding															injection molding

machine													machine
food manufacturing												Ī	food manufacturing
machine													machine
felling machine													felling machine
mobile logging													mobile logging
machine													machine
skyline yarding													skyline yarding
machine													machine
other mobile													other mobile
silviculture machine													silviculture machine
mobile crane													mobile crane
derrick crane													derrick crane
elevator, lift													elevator, lift
cargo lifting													cargo lifting
appliance													appliance
gondola													gondola
lumberyard													lumberyard
equipment, logging													equipment, logging
cableway													cableway
simple skyline													simple skyline
yarding equipment													yarding equipment
other powered													other powered
crane													crane
railway equipment													railway equipment

loader													loader
straddle carrier													straddle carrier
rough terrain hauler													rough terrain hauler
railway vehicle													railway vehicle
boiler													boiler
gas welding equipment													gas welding equipment
arc welding equipment													arc welding equipment
other welding equipment													other welding equipment
kiln, caldron													kiln, caldron
transmission													transmission
other electrical equipment													other electrical equipment
timbering													timbering
opening													opening
explosive substance													explosive substance
radiation													radiation
stone, sand, substance													stone, sand, substance
natural ground,													natural ground, rock
water													water

abnormal																										abnormal
environment																										environment
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

Transition of workers' age groups of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Age
50-59	16	23	20	15	12	16	12	9	7	12	5	9	5	3	12	6	3	5	11	5	4	5	9	7	231	50-59
40-49	12	10	12	11	5	5	5	5	12	3	2	6	3	9	7	6	10	10	8	9	13	4	3	7	177	40-49
30-39	7	14	7	10	11	5	8	4	11	8	6	5	4	11	10	6	6	7	6	6	9	3	6	4	174	30-39
20-29	11	12	9	12	4	11	10	6	7	5	2	4	5	6	4	6	6	5	9	4	4	4	9	3	158	20-29
60 years old or more	4	3	4	5	1	4	3	5	3	9		3	3	6	6	5	3	1	5	3	2	1	5	2	86	60 years old or more
19 years old or less		2		2	2		1	1	3	1	1	1	2	1						1		1			19	19 years old or less
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

Transition of workers' number of workplace of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Workers scale
300 workers or	14	15	16	7	10	12	12	7	10	9	6	5	4	7	16	6	8	7	12	10	10	4	6	12	225	300 workers or
more	17					12	12	,				J			10			,	12					12	I	more
100-299	11	12	10	15	6	8	7	6	11	15	5	7	6	8	7	15	3	9	11	7	14	10	10	6	219	100-299
50-99	6	12	5	5	4	8	1	2	4	5	3	7	5	2	4		3	5	5	1	3	2	3	2	97	50-99
30-49	5	9	7	9	2	4	5	2	8	3	2	3	3	2	4	3	3	3	3		3		2	2	87	30-49
10-29	9	10	9	10	9	6	10	8	6	4		5	4	13	7	5	8	4	7	8	1	1	10	1	155	10-29
9 workers or less	5	6	5	9	4	3	4	5	4	2		1		4	1		3		1	2	1	1	1		62	9 workers or less

total 50 64 52 55 35 41 39 30 43 38 16 28 22 36 39 29 28 28 39 28	32	28	32	18	18	3	3	3	3	,	8	18	1	<u>)</u>	32	32		8	28	2)	39	39		;	28			28	28		9	29			39	39		5	36	3			22	22			8	28	2			6	16			8	3			3	13	4.	4)	0	30	30	3(3)	9	39	39	39	3	:			1	11	41	4		,	35	35	3	ا		5	55	5			2	5	-	ŧ	64	16		0	50	5																																			
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Transition of occured months of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Month
July	3	7	5	3	5	5	7	1	6	3		1		4	3	4	4		3	3	4	2	2	8	83	July
December	3	9	3	2	2	1	3	3	4	4	2	1	5	1		1	1	2	5		2		4	3	61	December
October	5	7	6	10	2	2	5	1	3	4	1	3	2	1	5	3	2	2	1	6	3	1	2	2	79	October
March	4	4	6	4		4	3	2	5	4			3	4	3	1	1	2	5	4	5	4	2	2	72	March
June	4	3	3	3	4	1	2	1	4	2	4	5	1		6	2	1	1	5	3	1	3	3	2	64	June
May	3	6	6	3	1	6	1	3	4	2	1	3	2	5	2	1	3	2	2			1	4	2	63	May
August	2	2	4	4	5	2	2	2	4	4	1	2	1	1	3	3	2	3	4	2	3			2	58	August
January	6	4	4	9	4	4	1	3	2	2	3	5	2	6	2	4	4	3	3	2		3	2	1	79	January
April	4	8	3	6	2	6	5	1	2	5	1	2	5	4	1	4	1	2		1	3	1	6	1	74	April
February	3	4	4	3	3	3	4	2	3	2	2		1	5	6	2	5	3	5	4	8	1	5		78	February
November	5	4	4	2	3	3	4	8	5	2	1	1		2	5	3	1	5	5	1	2	2	1		69	November
September	8	6	4	6	4	4	2	3	1	4		5		3	3	1	3	3	1	2	1		1		65	September
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

Transition of prefectures of fatal and non-fatal accidents in 010802 chemical fiber in Japan (1999-2022)

	·																									
Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Prefecture
Aichi	6	6	4		7		2	3	2	2	3	1	2	5	3		1	2	1		5	2	1	6	64	Aichi
Okayama	5	4	3		2		5	2	4	3	2	2	2	4	5	3	2	2	5	1	4	2	1	3	66	Okayama
Shizuoka	1	2	2					1	2	2		1	1	1		1	1	1	2	2			1	3	24	Shizuoka
Ehime	6	4	4		3		5	3	3	3	2	3	2	3	3	3	3	1	4	3	4	2	1	2	67	Ehime

Gifu	1	2	3		4	3	5	2	1	3		4	7	2	5	1	5	3	3	2	4	2	62	Gifu
Osaka	4	4	1	3	3	1	2	1			3	3	1	2	3	1	4	3	1	1	6	1	48	Osaka
Fukui		2	3		1	4	1	3	1	3	3	1	1	4	2	2	4	4	1		2	1	43	Fukui
Yamaguchi	4	3	6	5	1		3	2		2			1	2			1		2	1	2	1	36	Yamaguch
Hiroshima	4	1	3	1	2	1		2	3	1	1	2		1	1	4		1				1	29	Hiroshima
Kyoto	2	3	1			1	1			1	1	1	2		3	1		3		1	2	1	24	Kyoto
Miyazaki	2	2	1	1	1	3		1	1			1								1		1	15	Miyazaki
Mie	1	2	1	3					1										1			1	10	Mie
Shiga		3	4	1	1	1	3	5			2	2	4	3		2	2		3		1		37	Shiga
Toyama	1	2	1	3	3		7	3		2	2	2	2	1	1	3	1				1		35	Toyama
Hyogo	3	3	1	2	1		1	2		3		2	1	2	2	1	1	1	6	3			35	Hyogo
Tochigi	1	2	3	2	1			2		4				2	2	1	1	1			1		23	Tochigi
Shimane	1		1					1			1		2			1	2	2	1	1	3		16	Shimane
Fukuoka	2	1	4			1	3		1		1	1											14	Fukuoka
Gunma		2	1		4		2					1	2					1					13	Gunma
Tokushima		3				1	1					1	2		2	1					1		12	Tokushima
Fukushima					1		2			1			1	1			2	2					10	Fukushima
Kanagawa	1	3			3	1																	8	Kanagawa
Ishikawa			1											1		1	2	1		1	1		8	Ishikawa
Chiba	1		1					1			1	1				2							7	Chiba
Wakayama			1	2		2	1										1						7	Wakayama
lbaraki		1				1		1		1			1				1						6	Ibaraki
Hokkaido								1					1	1							2		5	Hokkaido
						<u> </u> 					1													

Saitama		3	1																		1				5	Saitama
Tokyo	3	2																							5	Tokyo
Aomori		2																					1		3	Aomori
Yamagata								1														1			2	Yamagata
Nara										1													1		2	Nara
Kagawa		1									1														2	Kagawa
lwate	1																								1	lwate
Niigata																		1							1	Niigata
Yamanashi			1																						1	Yamanashi
Nagano							1																		1	Nagano
Kochi														1											1	Kochi
Saga		1																							1	Saga
Miyagi																										Miyagi
Akita																										Akita
Tottori																										Tottori
Nagasaki																										Nagasaki
Kumamoto																										Kumamoto
Oita																										Oita
Kagoshima																										Kagoshima
Okinawa																										Okinawa
total	50	64	52	55	35	41	39	30	43	38	16	28	22	36	39	29	28	28	39	28	32	18	32	23	845	total

 ${\sf Data\ Source: \underline{https://anzeninfo.mhlw.go.jp/user/anzen/tok/anst00.html\ MHLW, Jaan}}$

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