

Psychosocial impacts of the COVID-19 pandemic: A frame of reference from lessons learned through disasters in Canada

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Research Team

Universities

- Université de Sherbrooke
- Université d'Ottawa
- Université de Neuchâtel
- Université de Genève
- Université catholique de Louvain
- Centro Universitário de Brasília
- University of the Philippines
- Chinese University of Hong Kong
- University of Canterbury

Health Organizations

- Direction de la santé publique de l'Estrie
- Ministère de la Santé et des Services sociaux du Québec
- Public Health Agency of Canada
- National Collaborating Center for Infectious Diseases
- Department of Health (Philippines)
- Public Health England
- World Health Organization



What do we know about psychosocial impacts of disasters ?



Definition of disasters

- A disaster is a disturbance in the human environment that exceeds the capacity of the community to function normally.
- Various disasters have hit Canada in recent years, including:
 - 2013 Lac-Mégantic rail tragedy
 - 2016 Fort McMurray wildfires
 - 2017 and 2019 Quebec spring floods
 - And now the COVID-19 pandemic



Common features

- Unpredictable, sudden onset
- Fear, confusion, stress and uncertainty
- Human, material and financial losses
- Evacuation or confinement
- Infrastructures and/or services disruption
- Complex government response
- Great media attention
- Long lasting impacts
- Entire communities affected



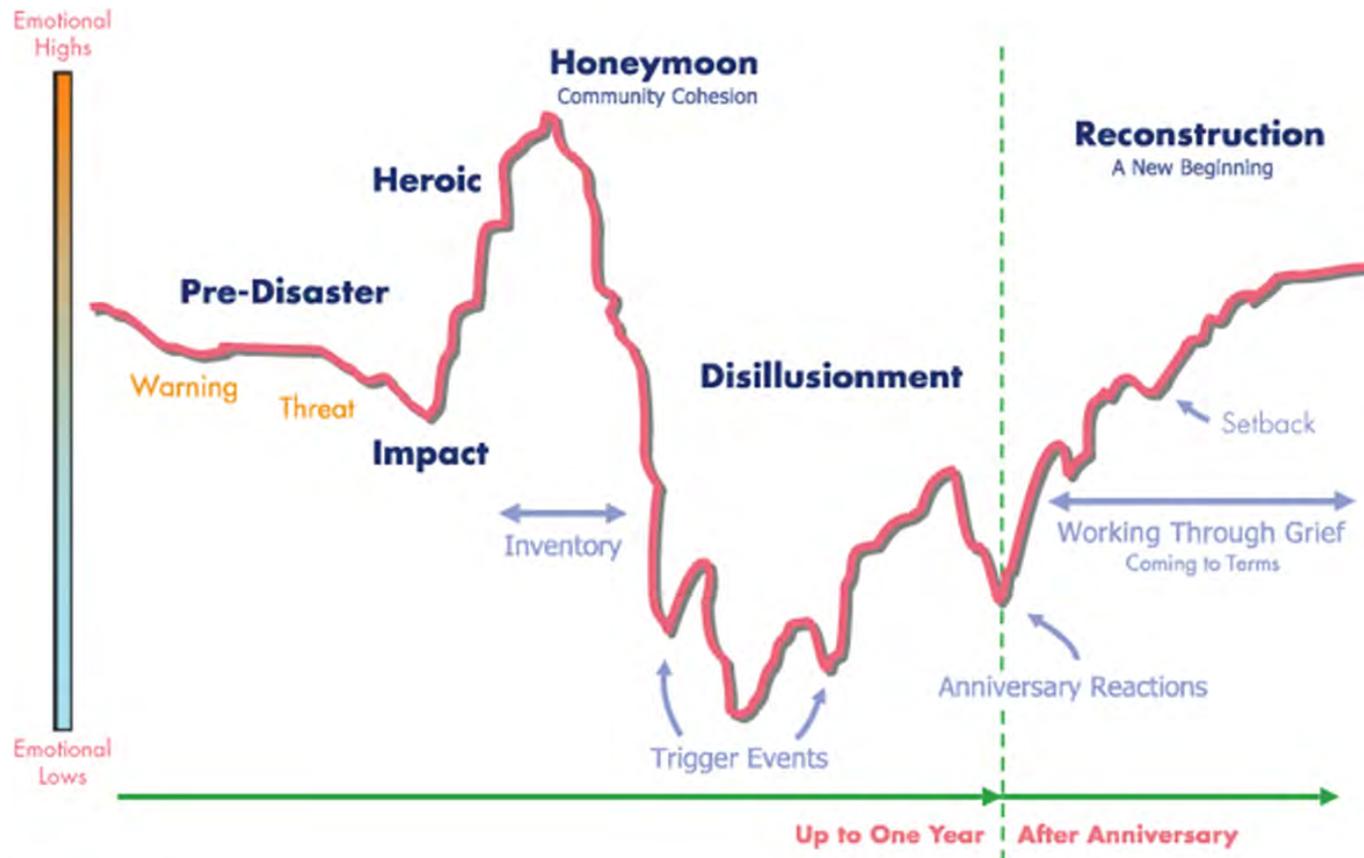
Psychosocial impacts

- Psychosocial impacts are less recognized and less studied than impacts on the physical health although psychological effects often outweigh physical effects.
 - Mental health issues are thought to be responsible for more than **80% of the total health burden** (DALYs) attributable to flooding (Fernandez et al, 2015)



Emotional reactions

(DeWolfe, 2000)



Primary and secondary stressors



Primary stressors (during the crisis):

stress (fear, uncertainty, confusion, insecurity), isolation, losses (human, financial, material), disruption of daily life, ↓ access to services, information overload (infodemic)



Secondary stressors (longer term):

reconstruction (social, economic, physical), prolonged isolation, difficulty adapting to the new reality, low social support, financial problems



Anniversary reactions



Psychosocial impacts of the COVID-19 pandemic : results from a Canadian-led study



Our study

- Two-year project funded by the CIHR of an interdisciplinary and international team
- **Title: The Influence of Communication Strategies and Media Discourse on the Psychological and Behavioral Response to the COVID-19 Pandemic: An International Study**
- 3 axes:
 1. Population-based surveys to examine the psychosocial impacts and their associated factors
 2. Qualitative and quantitative analysis of media discourse and social networks
 3. Network analysis to assess how information flows through levels of governance



Our study: Axis 1

- International surveys :
 - Pilot phase: **April 8-11 2020**; Canada (n = 600)
 - Phase 1 : **May 29-June 12 2020**; 8 countries (n = 8,806, including 1,501 in Canada)
 - Phase 2: **November 6-18 2020**; 8 countries (n = 9,029, including 2,004 in Canada)
- Quebec surveys :
 - Phase 1: **September 4-14 2020**; 7 regions (n = 6,261)
 - Phase 2: **November 6-18 2020** ; all regions (n = 8,518)
 - Phase 3: **February 5-16 2021** (n = 10,513)
- Recruitment through a web panel
- Non-probability sample of adults (quotas samples)
- Weighted by age, gender, language and region



Main outcomes

Psychological response

- Daily stress level
- Sleep problems
- Generalized anxiety disorder (GAD-7)
- Major depression episode (PHQ-9)
- Post-traumatic stress disorder (PC-PTSD-5)
- Serious suicidal thoughts
- Domestic violence

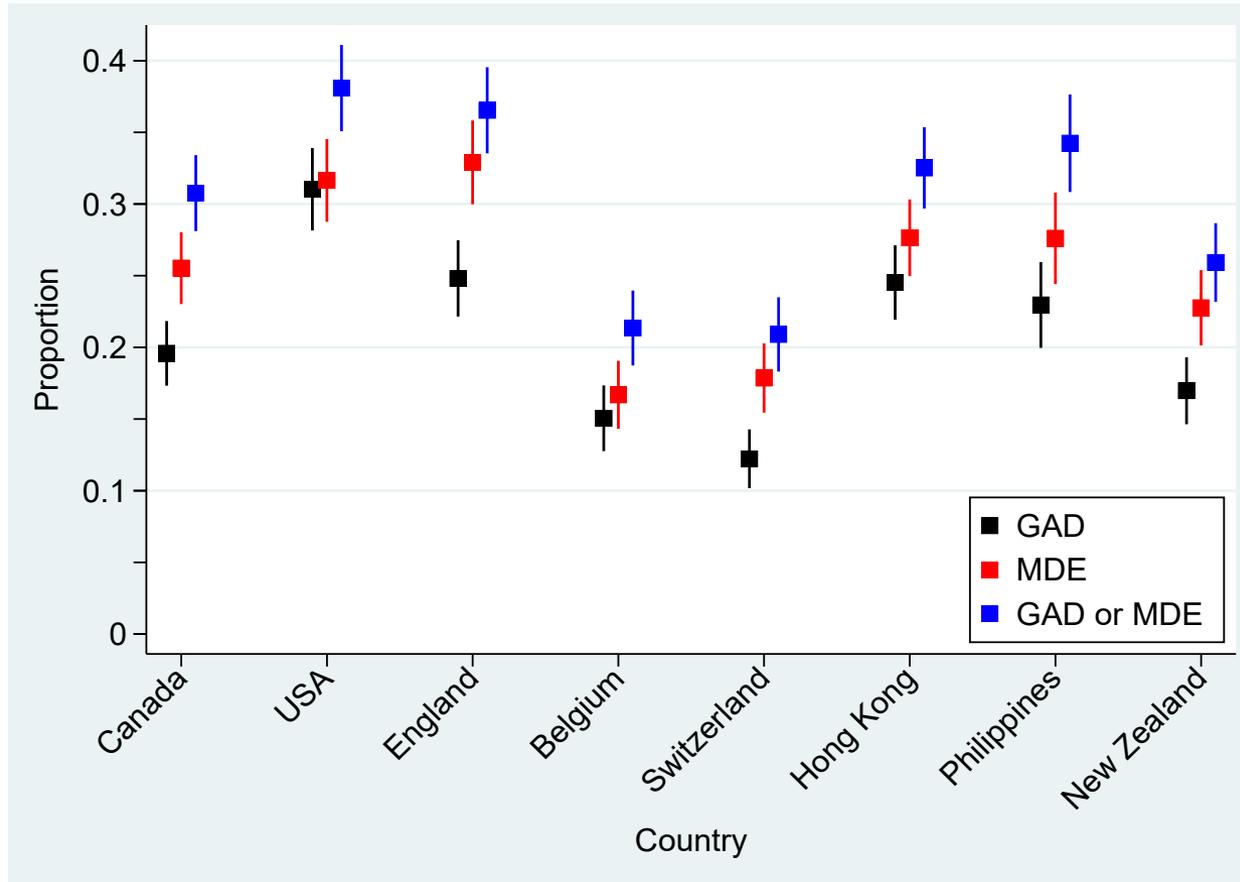
Behavioral response

- Life habits
 - Physical activity
 - Smoking and vaping
 - Alcohol consumption
 - Cannabis consumption
- Preventive behaviors
 - Control measures
 - Vaccination



International survey, Phase 1: May 29-June 12, 2020

(Généreux et al, 2020a)



International survey, Phase 1: May 29-June 12, 2020

(Généreux et al, 2020a)

Several factors associated with a probable GAD or MDE (*in descending order of importance*):

1. Weak sense of coherence – **OR 3.21; 95% CI 2.73–3.77**
2. Lower age
3. False beliefs
4. Isolation or quarantine
5. Threat perceived for oneself/family
6. Mistrust in authorities
7. Stigma
8. Threat perceived for country/world
9. Financial losses
10. Being a female
11. Having a high level of information about COVID-19



Sense of coherence

(Lindstrom & Eriksson, 2010)

- Core concept of salutogenesis
 - examines the factors contributing to the promotion and maintenance of physical and mental well-being rather than disease
- Composed of three elements:
 1. **Intelligibility**: Ability to understand and analyze stressful situations
 2. **Meaningfulness**: Meaning that a person gives to a stressful situations and in life in general
 3. **Manageability**: Ability to identify and mobilize available resources to deal with stressful situations



Canada/Quebec survey, Phase 2

(November 6-18, 2020)

Regions	n
Capitale-Nationale	500
Mauricie-CDQ	777
Estrie	758
Montréal	1040
Laval	759
Lanaudière	1017
Laurentides	1032
Montérégie	1026
5 small regions*	1053
Other regions in Quebec	556
Quebec	8518
Ontario	503
Rest of Canada	500
Canada	9521

*Bas-Saint-Laurent, Saguenay-Lac-Saint-Jean, Abitibi-Témiscamingue, Côte-Nord, Gaspésie-Île-de-la-Madeleine



Canada/Quebec survey, Phase 2

(November 6-18, 2020)

	Probable anxiety (GAD-7 \geq 10)	Probable depression (PHQ-9 \geq 10)	Probable anxiety or depression
Capitale-Nationale	11.6% (-)	16.2% (-)	19.8% (-)
Mauricie-CDQ	12.6% (-)	16.6%	21.0%
Estrie	13.9%	16.4%	19.7%
Montréal	23.4% (+)	28.1% (+)	32.0% (+)
Laval	14.9%	21.2%	24.1%
Lanaudière	13.0%	14.6% (-)	19.0% (-)
Laurentides	13.6%	18.3%	20.5%
Montérégie	16.4%	18.8%	22.5%
5 small regions	10.7% (-)	12.9% (-)	16.4% (-)
Quebec	15.9%	19.6%	23.3%
Ontario	30.9% (+)	34.5% (+)	39.7% (+)
Rest of Canada	19.3%	25.8%	30.6%
Canada	23.1%	28.1%	32.7%

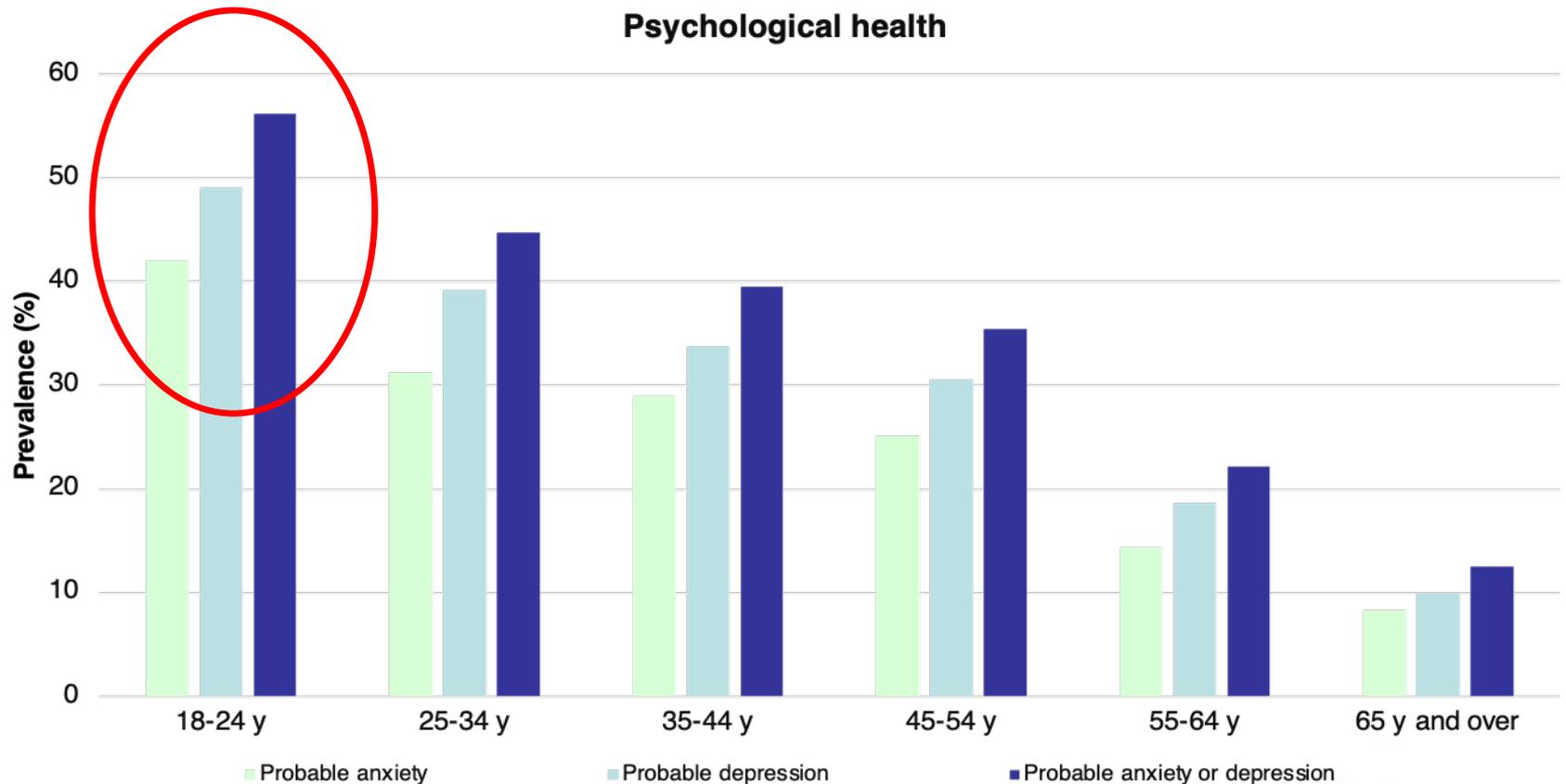
Pre-pandemic values: 2.5% 6.8%

(Pelletier et al, 2017 ; Lukmanji et al, 2019)



Distribution according to age

(Canada, November 6-18, 2020)



Key points

1. One in 4 adults in Quebec reports symptoms consistent with anxiety or depression.
2. One in 3 adults in Canada reports symptoms consistent with anxiety or depression.
3. Being anxious or depressed is the new normal for youth.
4. The situation is worse in :
 - Montréal
 - Ontario
5. Anxiety and depression levels have clearly increased in 2020.
6. Both the pandemic and the infodemic influence psychological health.
7. The sense of coherence is a very important protective factor.



**Do these findings compare
with those of previous
disasters in Canada ?**



Fort McMurray wildfires (2016)

(Agyapong et al, 2018; Agyapong et al, 2019)

- Context ?

- Destruction of hundreds of homes and businesses, hundreds of thousands of acres of land, causing the largest evacuation in Alberta's history

- Who?

- A sample of 1,500 adults (18 years and older), residing in Fort McMurray, randomly recruited from community settings

- When?

- 6 months after the event

- What?

- 1-month prevalence rate for likely GAD (GAD-7) and likely MDE (PHQ-9)



Fort McMurray wildfires (2016)

(Agyapong et al, 2018; Agyapong et al, 2019)

- Current levels of anxiety and depression are similar (if not higher) to levels seen in Fort McMurray, 6 months after the devastating wildfires of 2016:
 - Probable generalized anxiety (GAD-7): 20%
 - Probable major depression (PHQ-9): 15%
- Young adults in Fort McMurray (18-24 years old) were also particularly affected, with a prevalence of 29% for GAD and 22% for MDE.



Quebec spring floods (2019)

(Généreux et al, 2020c)

- Context?

- More than 5,000 homes flooded and 7,000 people evacuated in April 2019

- Who?

- Survey among 3,437 households located in flooded areas in the 6 most affected regions
 - 346 flooded (10%) = flooded living areas
 - 1,230 disturbed (36%) = flooded non-living areas (land, garage, etc.), evacuation, or loss of services

- When ?

- 8-10 months following the events

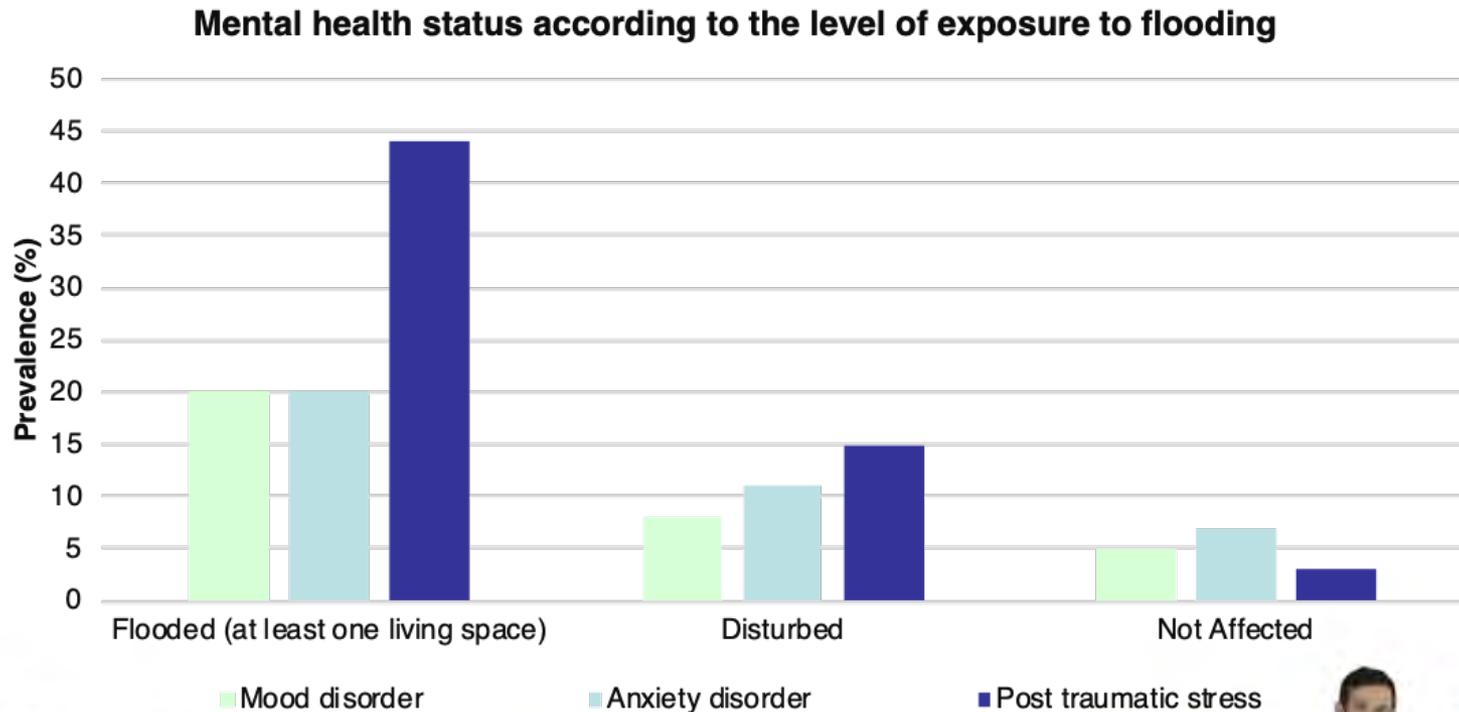
- What?

- Diagnosed anxiety and mood disorders
- Signs of post-traumatic stress



Quebec spring floods (2019)

- Nearly one year after the floods, just under half (44%) of flood victims showed symptoms consistent with post-traumatic stress disorder, 21% with anxiety disorder and 20% with mood disorder.



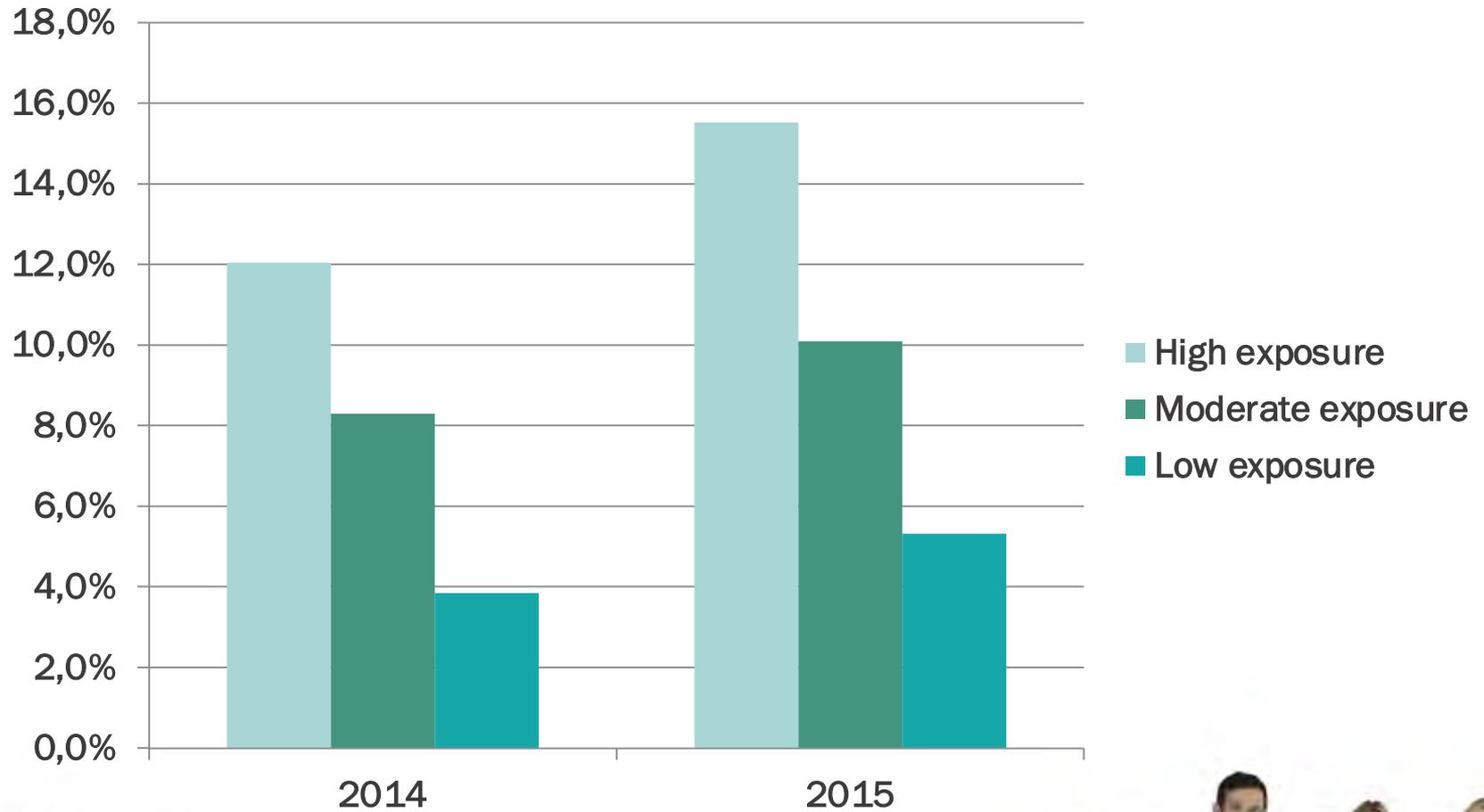
The Lac-Mégantic train derailment (2013)

(Généreux et al, 2020b)

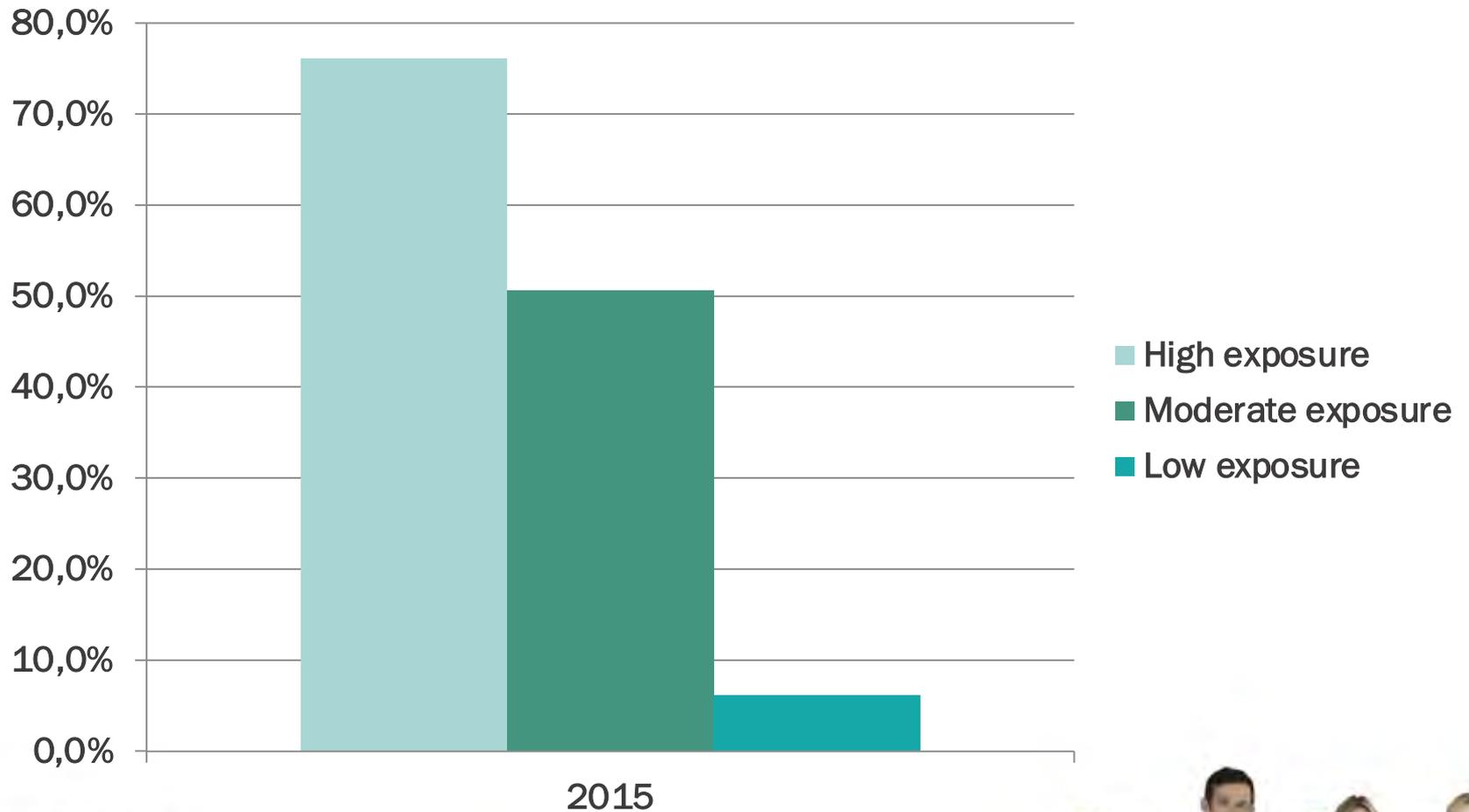
- Context?
 - A train transporting 72 cars full of crude oil derailed on July 6, 2013 causing the death of 47 people and the destruction of the city center
- Who?
 - Two samples of 800 adults in Lac-Mégantic and the surrounding areas
- When ?
 - 1 and 2 years following the event
- What ?
 - Diagnosed anxiety and mood disorders
 - Signs of post-traumatic stress
 - Psychosocial services received



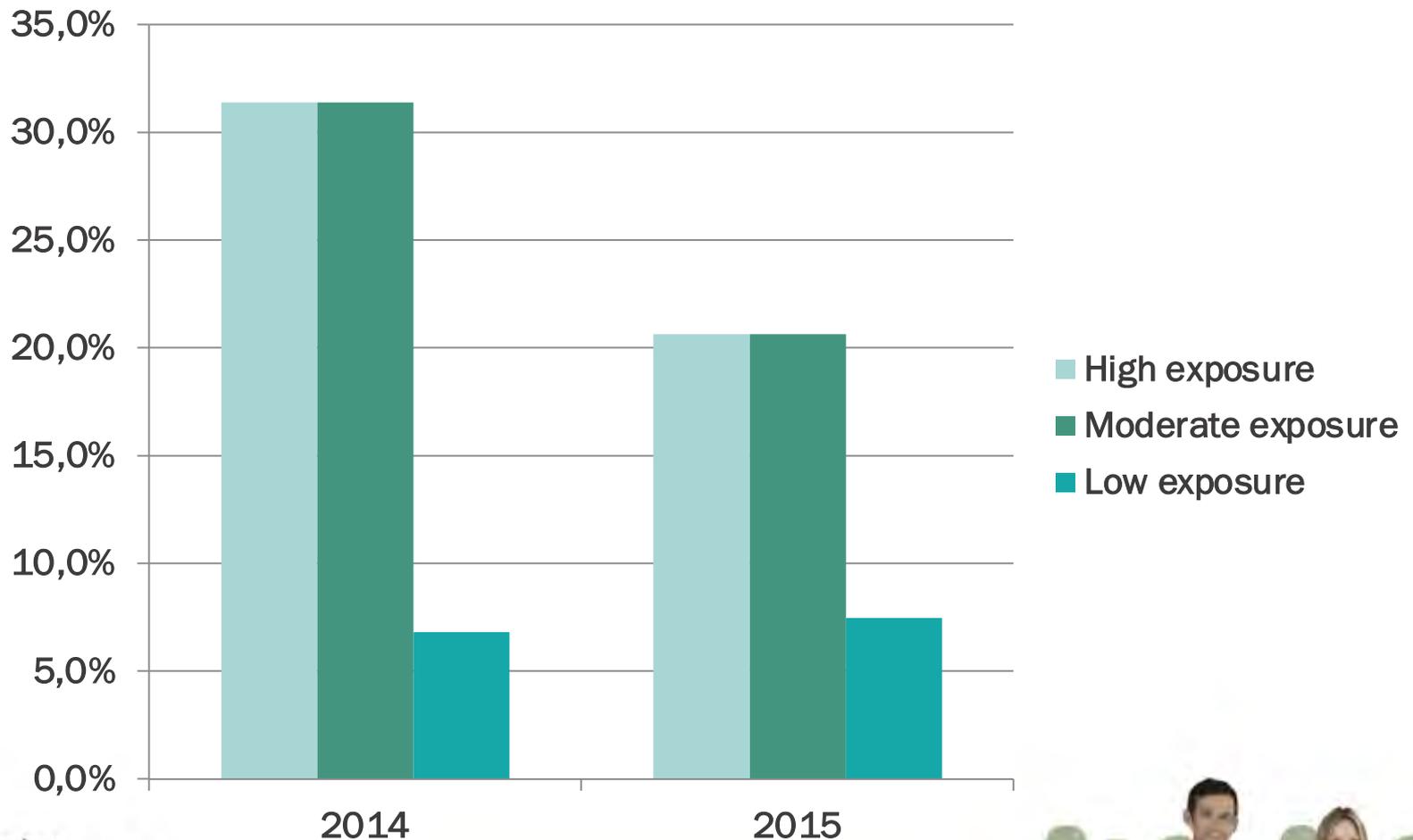
Anxiety disorders



Signs of post-traumatic stress



Psychosocial services received



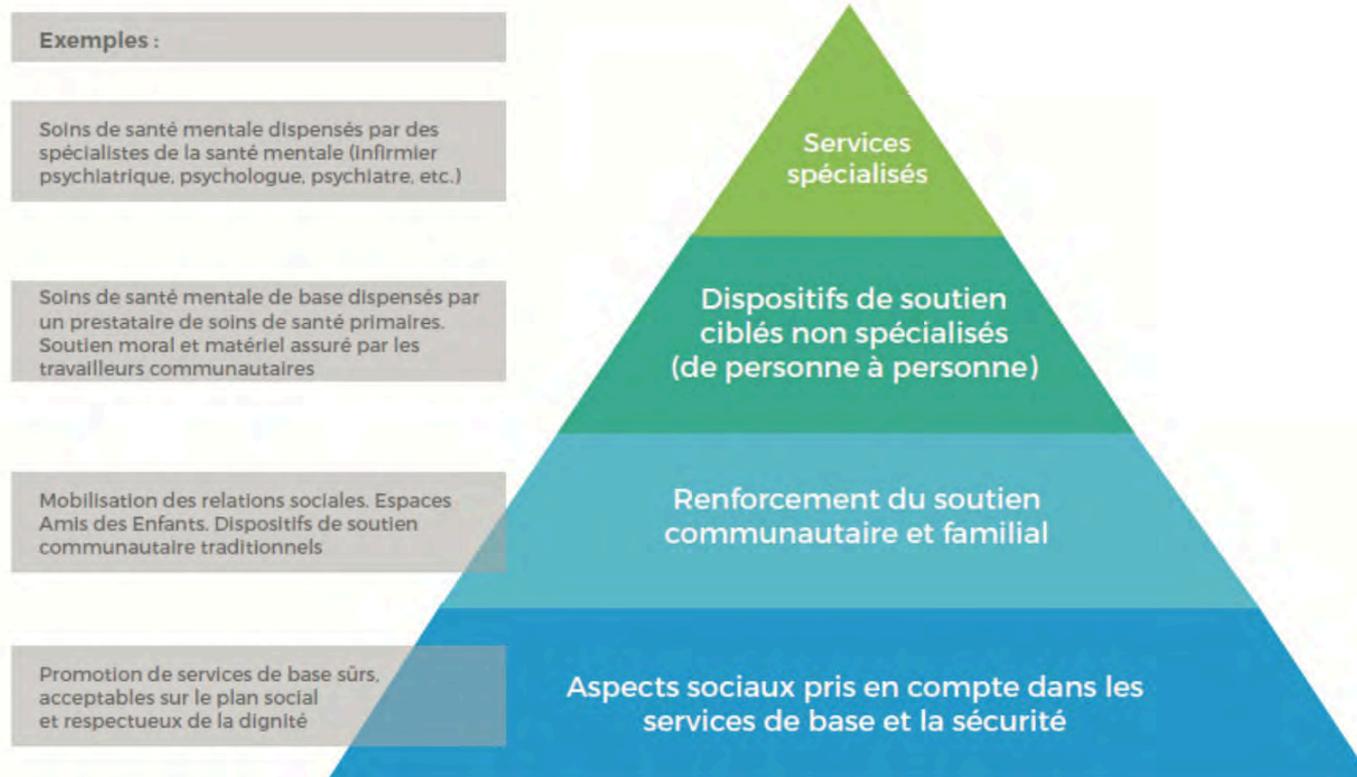
How to strengthen individual and community resilience in such adverse contexts ?



Stepped care model

(Roberge et al, 2020)

Pyramide des interventions pour la santé mentale et le soutien social en contexte de Covid-19
proposé par le *Interagency Sanding Committee*



Avenues of action

- **Specialized mental health services:** Accessible/equipped teams
- **Front line services:**
 - Clinical AND community settings (*outreach, early detection and intervention*)
 - Social prescription
 - Psychological first aid training
 - Support for essential workers, including healthcare workers
- **Community support and social fabric:**
 - Fostering community resilience (O'Sullivan et al, 2014)
 - Strengthening the sense of coherence
- **Basic services:**
 - Responding to the social needs of individuals and communities
 - Improved communication strategies
 - Balance between the fight against biological and psychosocial risks



Outreach team

(Généreux et al, 2019; Généreux et al, 2020b)

Intervention principles

- Acting close to citizens, in the community
- Acting upstream of problems
- Promotion of overall health
- An inclusive approach
- An approach that promotes empowerment
- Actions at different levels (from the individual to the collective)
- A model inspired by previous knowledge
- A model complementary to existing services
- A model relying on interdisciplinarity and partnership
- Work based on strengths and capacities



Social prescribing



- Community referral:
 - Enables health professionals to refer people to local, non-clinical services
 - Addresses people's needs in a more holistic way
 - Aims to support individuals to take greater control of their own health
- Range of activities : **volunteering, arts activities, group learning, gardening, befriending, cooking, healthy eating advice, sports, etc.**
- A link worker usually involved

<https://www.kingsfund.org.uk/publications/social-prescribing>



Psychological first aid

- Emotional and practical support
- Compassionate and non-judgmental interactions
- Objective to bring calm and comfort
- Cycle:
 - **LOOK**: Awareness that there is a problem; what does stress look like in ourselves or others
 - **LISTEN**: Listening to the warning signs in yourself or others
 - **LINK**: Linking to your self-care plan or resources in your community
 - **LIVE**: Living fully, bouncing forward



Supporting the workforce

- Why ?
 1. Maintain psychological health
 2. Avoid workforce flight due to fatigue and stress
 3. Support community resilience through everyday contact with the population
- How?
 - Breaks, adapted working hours, work-family balance, supportive work environment, clear and coherent communications, training, psychosocial interventions, **peer-support groups**



Peer support

- Group of peers (4 to 8) who have had common experiences and who help each other, with the presence of a moderator
- **Aim:** To break isolation and connect with others to better get through difficult times
- **Principles:** Mutual respect, shared responsibility, solidarity, understanding and compassion
- **Meetings in 3 steps:**
 - Decompression
 - Meeting (psychological safety)
 - Closing

http://www.pamq.org/assets/pdf/mettre-sur-pied-ou-rejoindre-un-groupe-de-soutien-entre-pairs-guide-accompagnement_PAMQ_04-2020.pdf



How to strengthen the SOC ?

(Généreux et al, 2020d)

Key ingredients (Super et al, 2016):

- Reflection
- Empowerment

Types of intervention:

1. Sports and leisure programs
2. Meditation and mindfulness
3. Artistic and cultural activities
4. Storytelling



Photovoice

(Généreux et al, 2019)

- **Citizens expressing themselves**
- **Goals:**
 - Giving a voice to citizens
 - Sharing various experiences
 - Explaining the elements that make
 - Identify aspects that support resili

« We could express our sadness, our emotions openly because we were welcomed, without criticism. At first it was quite emotional, but as you meet more often, that excess emotion was transformed into something lighter. It did me immense good. [...] It made a big difference. »



Storytelling

- Narrative interview (open questions)
- Account of event-related experiences
 - The feelings
 - Actions taken
 - Lessons learned
- Focus on people rather than the event
- Benefits (Kargilis & Kako, 2014):
 1. Individual recovery
 2. Community recovery
 3. Collective learning

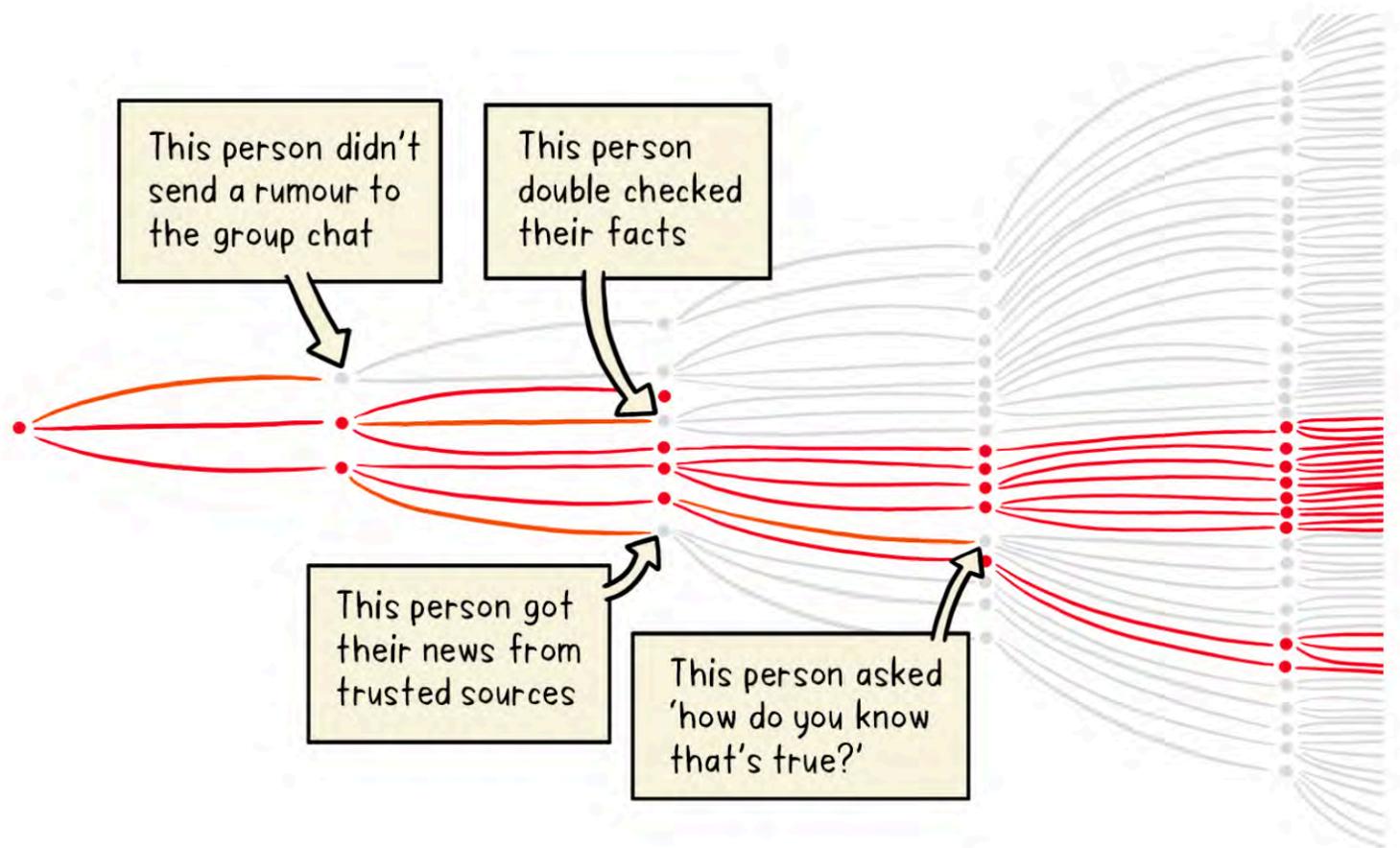


Communication strategies

- Strategies to:
 - Reduce confusion, mistrust and false beliefs
 - Better reach at risk groups (e.g. young people)
 - Fight against stigma
 - Putting solutions forward
 - Promote goodwill



Flattening the infodemic curve



<https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve>



Key messages

1. Many are affected by the pandemic, especially young people and essential workers.
2. These psychosocial impacts could be felt for months or even years.
3. The health system alone cannot be responsible for the psychosocial recovery of the population.
4. A preventive approach offered directly in living environments is necessary.
5. In extraordinary situations, we need extraordinary solutions.



Conclusion

The pandemic has and will continue to have major psychosocial impacts.

To adapt well, it is important to:

1. Develop a **common understanding** of risks
2. Work **together** in the search for solutions

Our action should not be limited to the management of the event but to all the associated risks (**disaster management vs. disaster risk management**).



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