How can epidemiology help advance our understanding of the relationship between loneliness & mental health problems?

Loneliness and Social Isolation in Mental Health research network launch
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Epidemiological approaches can:

1. measure loneliness & social isolation:
   – capture all relevant dimensions
   – estimate the burden of loneliness

2. describe & quantify associations:
   – between loneliness/social isolation & mental ill health
   – identify mediators of the associations between loneliness and mental health outcomes

3. evaluate interventions:
   – randomised controlled trials
Epidemiological approaches can:

1. measure loneliness & social isolation:
   – How bad is the problem?
2. describe & quantify associations:
   – How and why do they affect mental health?
3. evaluate interventions:
   – Can we intervene to prevent them?
MEASURES
<table>
<thead>
<tr>
<th>Measuring loneliness</th>
<th>Measuring social isolation</th>
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<tbody>
<tr>
<td>• overall appraisal of the</td>
<td>• number of meaningful ties</td>
</tr>
<tr>
<td>perceived adequacy or</td>
<td>• more objective</td>
</tr>
<tr>
<td>impact of relationships</td>
<td></td>
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<tr>
<td>• subjective</td>
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• moderately correlated ($r = 0.39$)
• separate constructs
• both associated with depression
• similar degrees of genetic influence:
  – social isolation (40%)
  – loneliness (38%)

(Matthews et al, 2016)
Dimensions of loneliness

- **emotional loneliness**: stemming from the absence of an intimate relationship or a close emotional attachment (e.g., a partner or a best friend)

- **social loneliness**: stemming from the absence of a broader group of contacts or an engaging social network (e.g., friends, colleagues, and people in the neighbourhood)
<table>
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<th>Emotional loneliness</th>
<th>Social loneliness</th>
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<td>e.g. when a partner relationship dissolves through widowhood or divorce → intense feelings of emptiness &amp; abandonment</td>
<td>e.g. when a person has moved to a place where they are a newcomer → no-one to call on for company or assistance</td>
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Dimensions of social isolation in mental health

- social network - quantity *(Social Network Schedule)*
- social network - structure *(Social Network Schedule)*
- social network - quality *(Social Network Schedule)*
- appraisal of relationships - emotional *(UCLA Loneliness Scale; De Jong Gierveld Loneliness Scale)*
- appraisal of relationships - resources *(Resource Generator-UK)*

*(Wang et al, 2018)*
Dimensions of social connectedness in mental health (CIVIC)

- Closeness
- Identity & common bond
- Valued relationships
- Involvement
- Cared for and accepted

(Duke et al, 2018)
Measures most widely used

- De Jong Gierveld Loneliness Scale; sub-scales for emotional loneliness & social loneliness (De Jong Gierveld & Van Tilburg, 2006)

- UCLA Loneliness Scale: captures the frequency and intensity of the current experience of loneliness (20 item; 8 item; 4 item; 3 item) (Hays & DiMatteo, 1987)

  (Wang et al, 2017)

- existing measures fail to capture the emotional dimension sufficiently: need lived experience input
@SchrebersSister Poll for people living with mental health problems or distress: Thinking about #loneliness which, if any, most resonates with you?

- Set apart or alienated: 25%
- Emotionally isolated: 40%
- Happier in solitude: 21%
- Prefer animals: 14%

311 votes. Final results.

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ASSOCIATIONS
Associations with specific mental illnesses

• cross-sectional associations between loneliness and specific mental health problems:
  – depression (Barger et al, 2014)
  – anxiety disorders – esp phobia & OCD (Meltzer et al, 2013)
  – personality disorder (Liebke et al, 2017)
  – psychosis (Lim et al, 2018)
  – dementia (Holwerda et al 2014)
  – eating disorders (Levine, 2012)
  – suicidal ideation (Stickley & Koyanagi, 2016)
Implications in mental illness

• depression:
  – strong evidence that loneliness & poor social support predict worse outcomes (Wang et al, 2018)
  – association between loneliness and depression is probably bidirectional (Cacioppo et al, 2006)
Understand mechanisms: *how & why*

(Martin & Hartley, 2017)
Understand mechanisms: how & why

(Martin & Hartley, 2017)
Matthews et al (2018) Lonely young adults in modern Britain: findings from an epidemiological cohort study

Childhood exposures
- mental health difficulties
- bullying
- social isolation

Outcomes in young adulthood
- Loneliness
- Mental health problems, unemployment, physical health risk behaviours, negative strategies to cope with stress

age 7

age 18
Future longitudinal studies

Childhood exposures

- mental health difficulties, bullying, social isolation

societal measures (e.g., cultural, sporting & spiritual life)
environmental quality (e.g., built environment)
area characteristics (e.g., social cohesion, ethnic density)
individual cognitive measures (e.g., attentional bias)
biological information (e.g., genetic, inflammation, imaging)

Outcomes in young adulthood

- loneliness
  mental health problems, unemployment, physical health risk behaviours, negative strategies to cope with stress

age 7

age 18
INTERVENTIONS
Interventions

- limited evidence to date (Mann et al, 2017)
- changing cognitions has most promise
- need to design trials of complex interventions
- cost effectiveness evaluations (McDaid & Park, 2017)
Interventions for people with mental illness

Direct interventions:
- changing cognitions
- social skills training & psychoeducation
- supported socialisation
- wider community approaches

Primary prevention of loneliness:
- investment in social convoys

(Mann et al, 2017)
Network priorities

• improve measures:
  – using qualitative approaches & service user input

• understand pathways:
  – publicise datasets with loneliness/network variables
  – longitudinal approaches & mediation analysis
  – lobby for inclusion of loneliness in more cohorts
  – individual-level (cognitive, socio-demographic, clinical) & area-level (ethnic density, environmental) measures

• evidence for effectiveness & acceptability:
  – pragmatic trial design (eg stepped wedge RCTs)
#MHLoneliness
@UCL_Loneliness