

2025 ESC Clinical Consensus Statement on mental health and cardiovascular disease

Official slide set

The material was adapted from the '2025 ESC Clinical Consensus Statement on mental health and cardiovascular disease' (*European Heart Journal*; 2025 - doi: 10.1093/eurheartj/ehaf191) as published on 29/08/25.

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Relationship between mental health, cardiovascular health and cardiovascular disease

Figure 1

Concept of mental health within this consensus statement

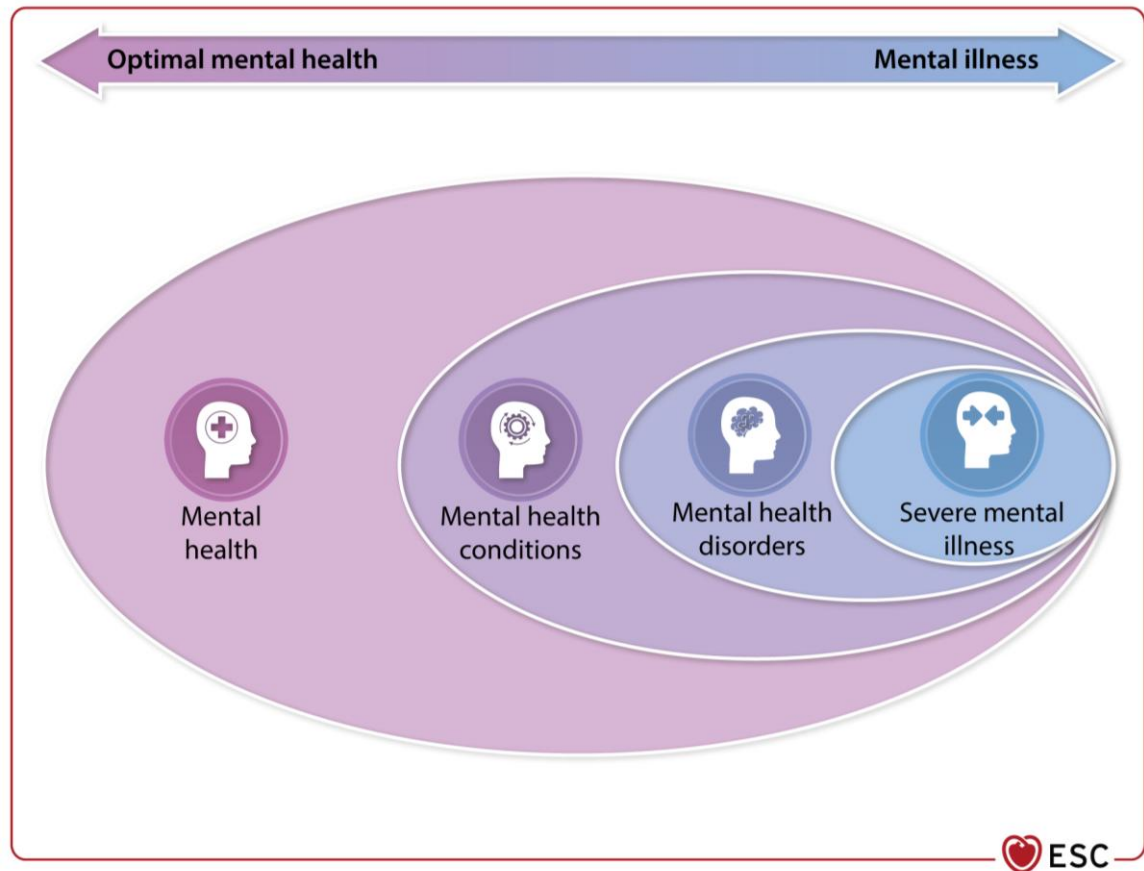


Figure 2

Mental/cardiovascular health, disease interaction, and future directions

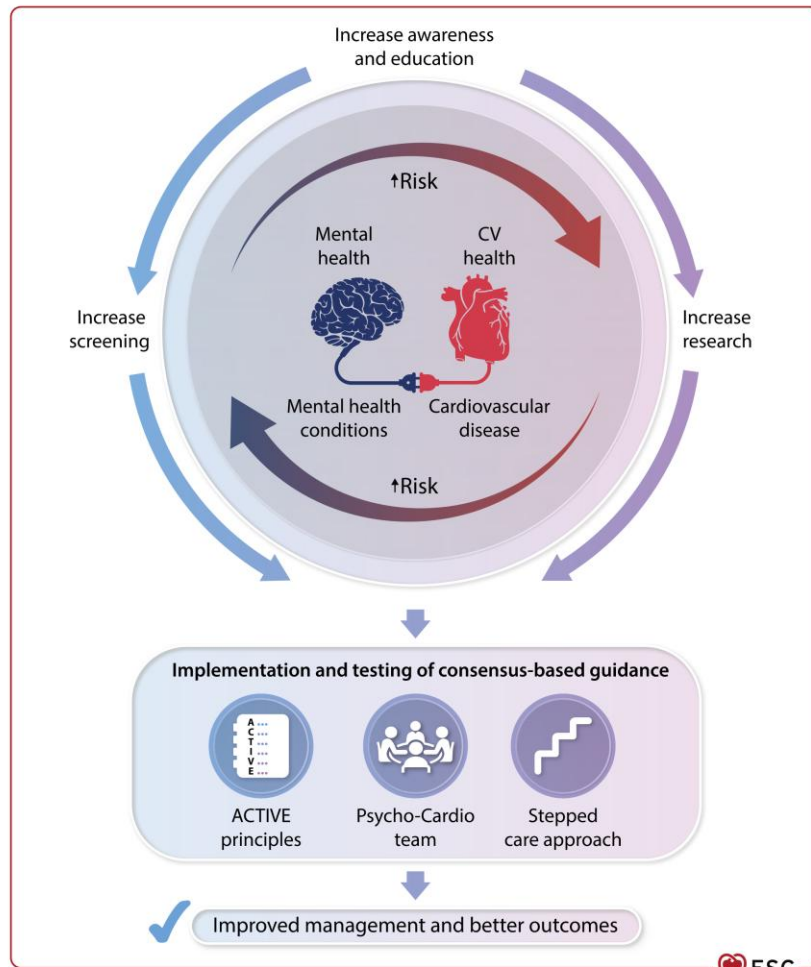


Figure 3

The Psycho-Cardio team

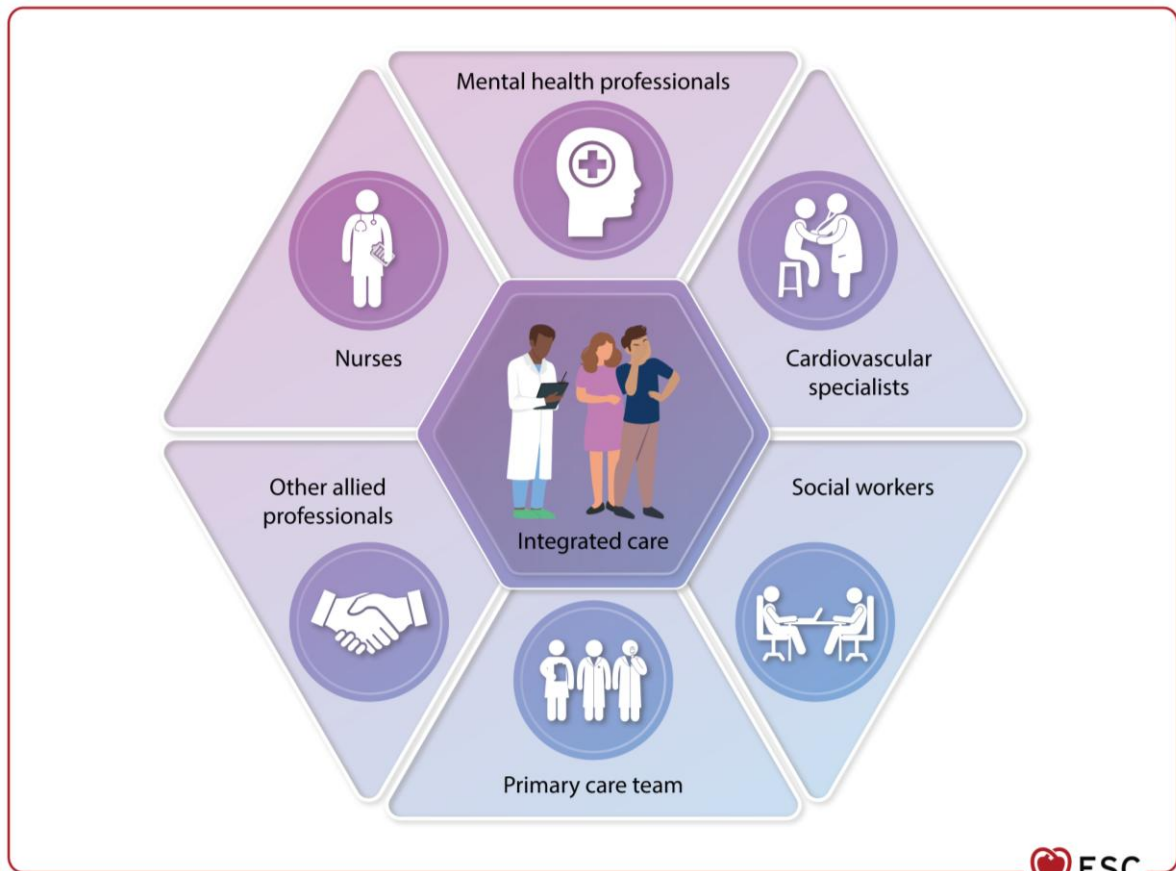


Figure 4

The ACTIVE principles to improve mental health in cardiovascular care



A **Acknowledge** the links between mental and cardiovascular health and determinants, bias, disparities and stigma associated with mental health



C **Check** for symptoms or mental health conditions at cardiovascular visits regularly and cardiovascular risk factors during mental care



T **Tools.** Use validated tools to screen and diagnose mental health symptoms and conditions



I **Implement** person-centred management using shared decision-making and stepped care approaches



V **Venture** to change cardiovascular care by implementing the structural and functional changes needed to integrate mental health care within cardiovascular practice



E **Evaluate** needs for educational support and changes in management and progress in cardiovascular and mental health outcomes

Section summary points and clinical consensus statements (1) ESC

SECTION SUMMARY POINTS

1. Mental health and mental health conditions interact with CV health and CVD in a multidirectional way.
2. The coexistence of CVD and mental health conditions can create a mutual interaction that worsens both mental and CV health, leading to poorer outcomes.
3. Routine CV clinical practice lacks integrated, systematic and appropriate screening, evaluation, communication, and management of mental health.
4. There is limited evidence on the best ways to communicate, promote, maintain, and improve mental health and resilience in people with CVD and their family members.
5. The evidence base to guide practice in relation to the screening and management of mental health conditions in people with CVD is limited.

Section summary points and clinical consensus statements (2) ESC

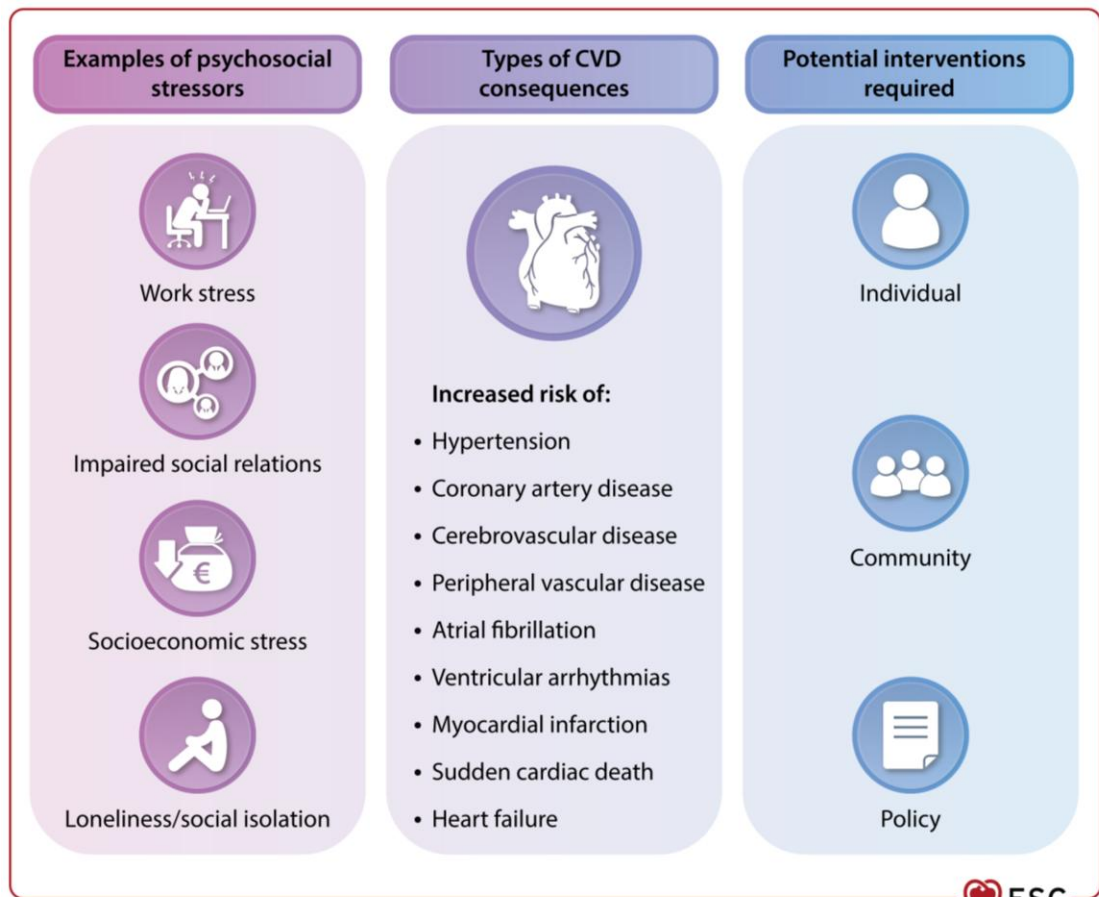
MANAGEMENT CONSENSUS STATEMENTS

1. Cardiovascular care is optimal if it is person-centred and seeks to improve overall health, not only CV but also mental health, as an integral component.
2. A multidisciplinary team including mental health professionals, psychologists and/or psychiatrists (Psycho-Cardio team) is needed in CV care to provide guidance for practice and appropriate mental health assessment, support and management to people with CVD and their caregivers.
3. Cardiovascular services should aspire to implement a Psycho-Cardio team approach, tailored to the local population, context and resources.
4. Implementing the ACTIVE principles is a practical approach to transform routine clinical CV care towards being more person-centred, integrating mental health care into routine CV practice to improve care.

**Cardiovascular risk
associated with mental health
in individuals without known
cardiovascular disease**

Figure 5

Sources of psychosocial stress as risk factors for cardiovascular disease



Section summary points and clinical consensus statements (1) ESC

SECTION SUMMARY POINTS

1. Indicators of positive mental health, such as optimism, happiness, and high life satisfaction are associated with lower CV risk.
2. Hazardous psychosocial factors (e.g. social isolation, financial pressures, and work) are associated with increased risk of developing CVD.
3. Mental health conditions such as depression, anxiety, and PTSD are associated with an increased risk of developing CVD.
4. Healthcare professionals have a responsibility to:
 - Be informed of these associations
 - Be alert to these risk factors during consultation
 - Inform, counsel and refer individuals at risk as needed
 - Advocate for system changes as appropriate.

Section summary points and clinical consensus statements (2) ESC

MANAGEMENT CONSENSUS STATEMENTS

1. Management of psychosocial stress and promotion of mental well-being are essential components of integrated CV prevention.
2. Screening for depression, anxiety, and PTSD is advised to be integrated into CV risk assessment.

Mental health and mental health conditions in patients with cardiovascular disease

Prevalence of depression/depressive symptoms in people with ESC cardiovascular disease (1)

CVD	Prevalence data
ACS/Post-MI	<p>Depressive symptoms were reported by 31% of individuals following MI. The prevalence of depression at the time of hospitalization was 40% in women under 60 years, compared to 22% in men of the same age group. Among those over 60 years, the prevalence was 21% in women and 15% in men.</p> <p>In 8580 people with ACS from 22 European countries who were ≥ 6 months post-hospitalization, depressive symptoms were more frequent in women (32.3%) than men (21.2%), with moderate/severe depression in 12.7% of women and 7.4% of men.</p>
Chronic HF	<p>Clinically significant depression affected 21.5% of people with HF, ranging from 33.6% via questionnaires to 19.3% via interviews, and 11% in NYHA class I to 42% in NYHA class IV. Depression was more common in women with chronic HF (32.7% vs. 26.1%), with rates of 11%–67% in women and 7%–63% in men, and increased with higher NYHA functional class.</p>

Prevalence of depression/depressive symptoms in people with ESC cardiovascular disease (2)

CVD	Prevalence data
Advanced HF and post-transplantation	<p>Depression affects 25%–35% of individuals after HTx.</p> <p>Depression was reported in 35% of individuals pre-transplant and 26.3% post-transplant.</p> <p>Depression occurs in 15%–39% of people with ventricular assist devices, often exceeding clinical cut-offs, particularly in older people.</p> <p>People experiencing HTx had less depression than those with mechanical assist devices.</p>
AF	<p>38% of people with AF met Beck Depression Inventory criteria for significant depression.</p>
ICD	<p>Random-effects meta-analyses showed clinically relevant depression in 15.4% (95% CI 11.9%–18.9%) of people with an ICD at all timepoints post-insertion.</p> <p>The 2-year incidence of new-onset depression after ICD implantation was 11.3% in a national ICD registry.</p> <p>Depressive symptoms affected 20% of people with ICDs (12% mild, 6% moderate, 2% severe). Moderate to severe depression was more common in secondary prophylactic indications and in people experiencing ≥ 5 ICD shocks.</p> <p>People with ICDs and pacemakers had similarly increased levels of depression.</p>

Prevalence of depression/depressive symptoms in people with ESC cardiovascular disease (3)

CVD	Prevalence data
ACHD	<p>Individuals with ACHD have higher depression rates than the general population, with a weighted prevalence of 24% vs. 15%.</p> <p>People with ACHD had a low and comparable suicide risk to the reference cohort.</p>
PH/PAH	<p>In 2161 people with PH, the reported pooled prevalence of depression was 28% (95% CI 20.5–36.8).</p> <p>Smaller studies report depression prevalence in people with PAH ranging from 9% to 70%, linked to disease severity.</p>

Prevalence of anxiety/anxiety symptoms in people with cardiovascular disease (1)

CVD	Prevalence data
ACS/Post-MI	<p>In an international cohort of people with CABG, PCI, post-MI, and ACS ≥ 6 month post-hospitalization, anxiety prevalence ranged from 12%–42% in men and 22%–64% in women, with moderate to severe anxiety in 11% of men and 23% of women.</p> <p>At 3 months post-MI, 10% reported high anxiety, dropping to reference population levels at 3–18 months.</p> <p>In people diagnosed with SCAD, 41% had mild anxiety and 16% moderate to severe anxiety by questionnaire. Higher anxiety scores were more common in women, younger individuals, those with lower resilience, and those closer to the event.</p>
Chronic HF	<p>Up to 72% of people with HF experience anxiety, with pooled estimates of 56% for symptoms, 29% for clinically significant anxiety, and 13.1% for anxiety disorders. Prevalence was higher in studies with more female participants.</p> <p>People with HF face a higher risk of anxiety, with 23% experiencing symptoms and 32% having both anxiety and depression.</p>

Prevalence of anxiety/anxiety symptoms in people with cardiovascular disease (2)

CVD	Prevalence data
Advanced HF and post-transplantation	The pooled prevalence of anxiety among people experiencing HTx was 11% (95% CI 3.8%–28.5%).
AF	People with AF exhibited a 28% prevalence of anxiety at baseline, comparable to controls, with symptoms persisting in 37% after 6 months. Among people undergoing cardioversion or ablation, 30% reported clinically significant anxiety.
ICD	<p>Among OHCA survivors, anxiety was reported in 36% of women vs. 20% of men, with higher rates in younger women (<55 years) than older women (43% vs. 28%).</p> <p>At 18 months post-OHCA, 32% showed anxiety symptoms.</p> <p>A large-scale registry reported 20% anxiety among people experiencing OHCA.</p> <p>Random-effects meta-analysis found clinically relevant anxiety in 23% (95% CI 18.3%–27.0%) of people with an ICD at all timepoints post-insertion.</p> <p>New-onset anxiety incidence was 15% at 24 months post-ICD implantation, with higher rates in women and the secondary prevention setting.</p> <p>People with ICDs and pacemakers exhibited similarly elevated anxiety levels.</p>

Prevalence of anxiety/anxiety symptoms in people with cardiovascular disease (3)

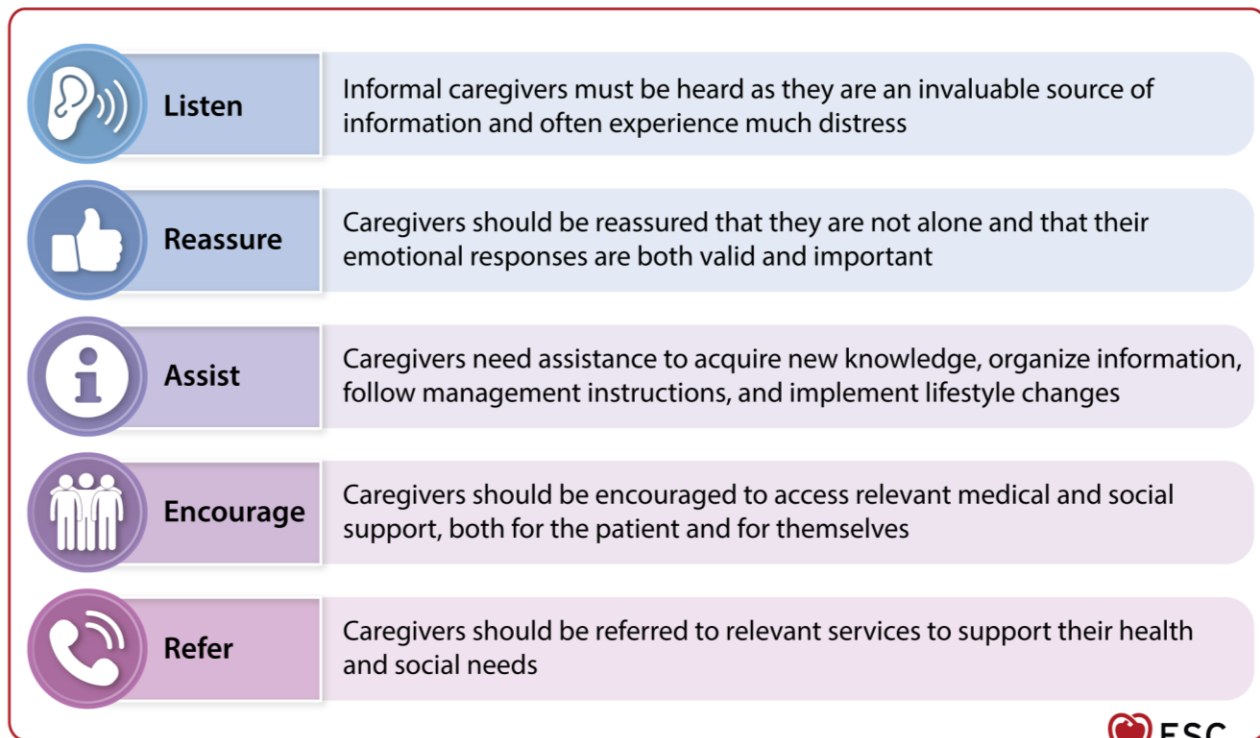
CVD	Prevalence data
ACHD	<p>A review found anxiety symptoms to be common both immediately after CV events or surgery and during follow-up.</p> <p>Anxiety prevalence was higher in people with ACHD (13%) compared to a historical cohort of people with non-Hodgkin lymphoma and German reference values (6%).</p>
PH/PAH	<p>A total of 24 studies with 2161 people with PH reported a pooled prevalence of 37% for anxiety (95% CI 28.7–46.4).</p> <p>Smaller studies reported anxiety prevalence in people with PAH ranging from 9% to 58%, linked to disease severity.</p> <p>Anxiety incidence was higher in people with PAH living in urban areas and in non-smokers or non-drinkers compared to their counterparts</p>

Prevalence of post-traumatic stress disorder/post-traumatic stress symptoms in people with cardiovascular disease

CVD	Prevalence data
ACS/Post-MI	<p>Clinically significant PTSD 12%, and PTSS prevalence 0%–26% depending on type of measurement.</p> <p>PTSD occurs in 7%–20% of people post-CABG.</p> <p>PTSD prevalence among people with SCAD ranged from 28%–35%.</p>
Advanced HF and post-transplantation	<p>PTSD occurs in 11%–19% of people post-HTx.</p>
ICD	<p>12%–38% prevalence of PTSD in survivors of cardiac arrest.</p> <p>Experiencing ≥ 1 appropriate ICD shocks was an independent risk factor for PTSD (OR 6.0, 95% CI 1.45–24.63, $P < 0.013$).</p> <p>A single study found higher PTSD prevalence in people with ICD who experienced electric storms compared to those who did not.</p>
ACHD	<p>1%–30% prevalence of PTSD in people with ACHD, varying by measurement and geographical region.</p> <p>Women and people with multiple medical encounters lacking psychosocial intervention are more likely to have PTSD.</p>

Figure 6

Suggestions for supporting informal caregivers of people living with cardiovascular disease



Section summary points and clinical consensus statements (1) ESC

SECTION SUMMARY POINTS

1. There is a multidirectional association between CVD and mental health conditions such as depression, anxiety, and PTSD, increasing each other's risk.
2. Mental health conditions in people with CVD, such as depression, can negatively affect self-management, including adherence to medication and lifestyle changes, and are associated with worse outcomes.
3. The effects of anxiety and PTSD on adherence and CV outcomes are less clear and might be time-dependent.
4. Caregivers play an essential role in supporting their family members who cope with CVD to incorporate lasting lifestyle changes and to adhere to treatment plans: assessing and supporting caregivers well-being benefits both parties.

Section summary points and clinical consensus statements (2) ESC

MANAGEMENT CONSENSUS STATEMENTS

1. It is reasonable to assess depression, anxiety, and PTSD in people with established CVD as they are highly prevalent and impact outcomes, and refer promptly to a professional when needed.
2. Chronic stress and loneliness are associated with negative outcomes in people with CVD and should prompt referral if identified during clinical assessment.
3. Incorporating informal caregiver well-being assessment and support is advisable in the holistic approach of mental and CV health.

Identification, prevention and management of mental health issues in patients with cardiovascular disease

Figure 7

Visualization of an 'on demand' support system for people with cardiovascular disease to improve mental health

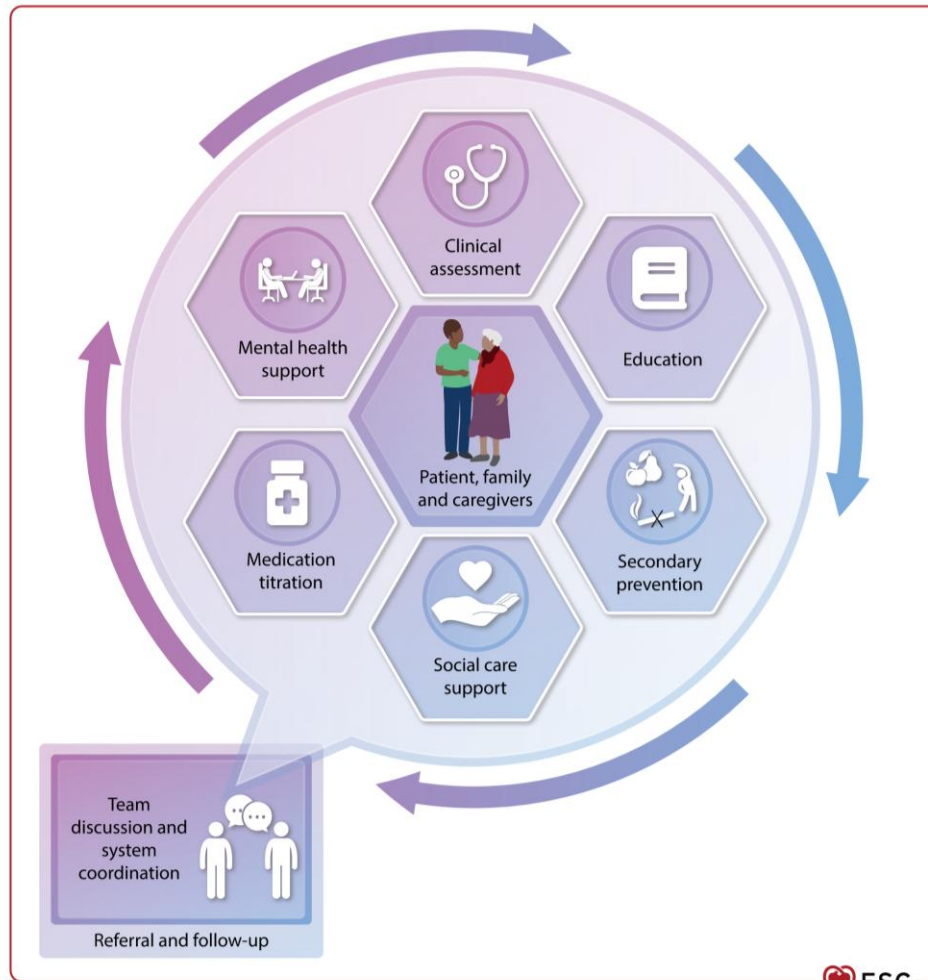
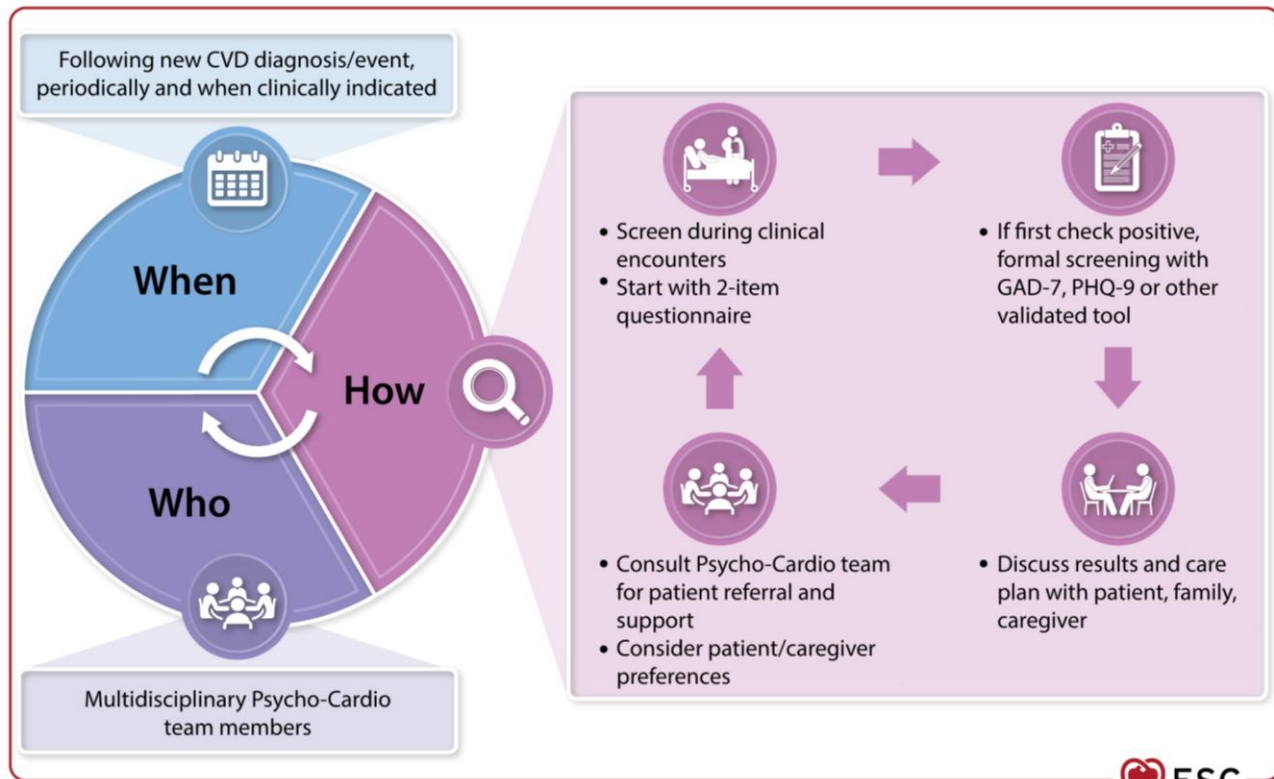


Figure 8

Screening for mental health conditions in people with cardiovascular disease



Psychometric properties of screening tools for anxiety and depression symptoms

Psychometric property	Whooley questions	GAD-2	PHQ-2 ≥2 points
Sensitivity	95% (95% CI 88–97)	91%	97%
Specificity	65% (95% CI 56–74)	37%	48%

Timing and tools for screening anxiety and depression symptoms

Timing of screening	Measurement	
	Anxiety symptoms	Depressive symptoms
1. Following a new diagnosis of CVD, a CV event or procedure. May be during hospitalization	GAD-2 followed by GAD-7 if positive	PHQ-2 followed by PHQ-9 if positive
2. At follow-up (e.g. annually) to determine change from baseline or previous measurement		
3. Anytime based on clinical judgement		

Figure 9

Stepped care model for assessment and management of mental health conditions in people with cardiovascular disease

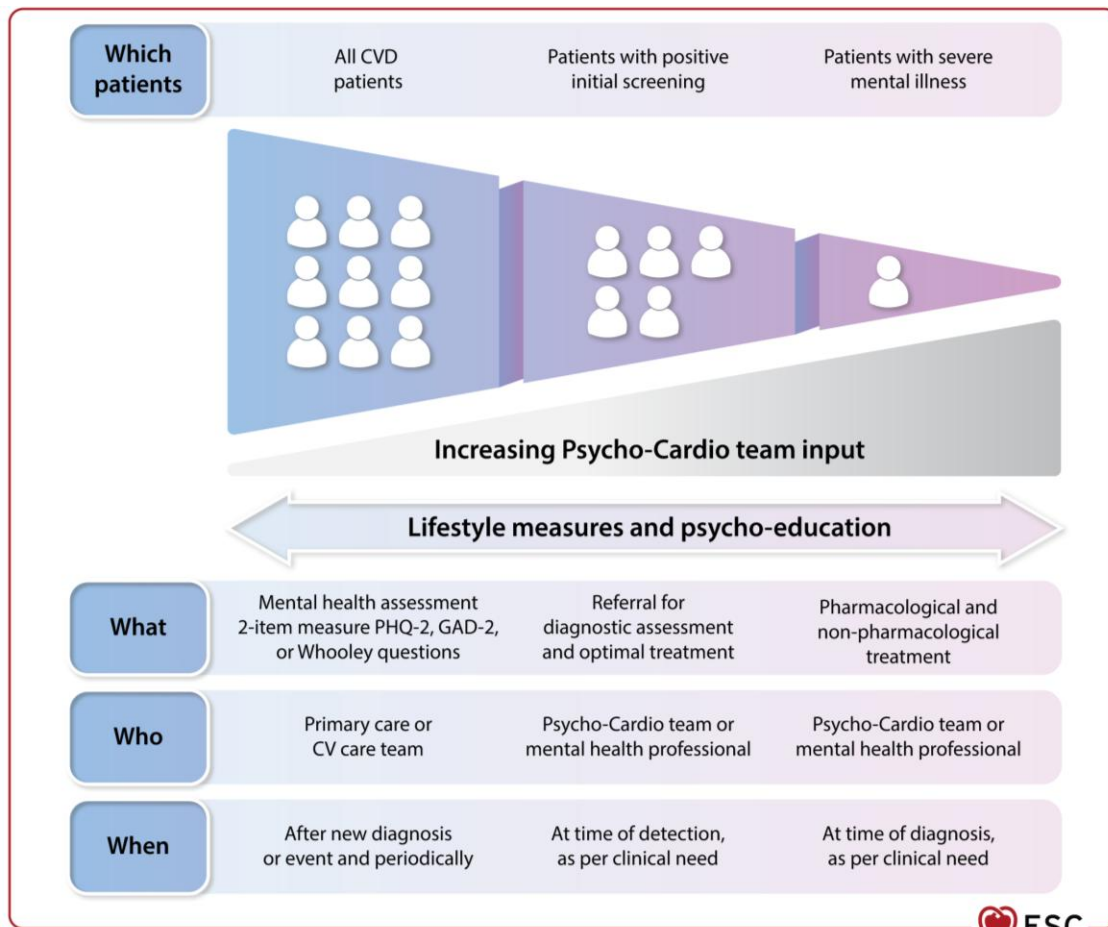
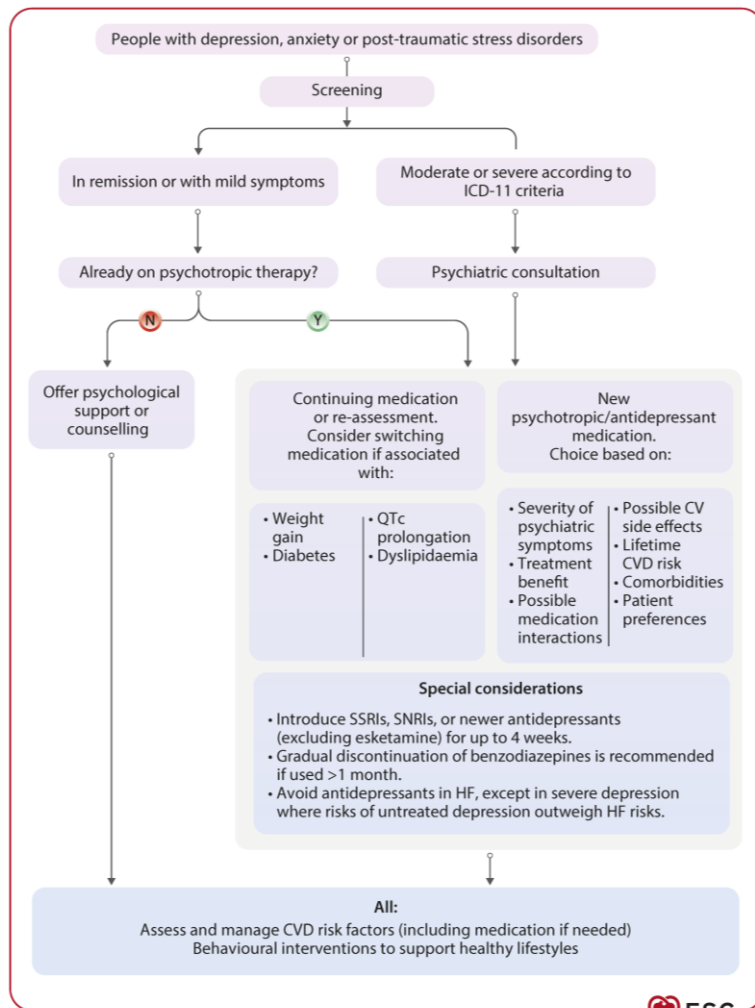


Figure 10

Pharmacological management of cardiovascular disease and depression, anxiety or post-traumatic stress disorders



SECTION SUMMARY POINTS

1. Ideally, assessment of mental health status should be performed routinely within CVD clinical practice and implemented when the context of local capacity and capability allows.
2. Depression and anxiety can easily be overlooked in the routine care of people with CVD and/or considered 'normal' reactions to individual clinical/prognostic burden of disease.
3. Clinical history can be used to identify mental health symptoms. If there is clinical suspicion, formal screening with validated tools is advised.
4. Psycho-Cardio teams are needed to structure pathways for:
 - Screening,
 - Referral,
 - Treatment of people with CVD and suspected or established mental health conditions.
5. Medical interventions including pharmacotherapy may be needed for people with CVD who are diagnosed with mental health conditions, especially for severe symptoms of depression, anxiety, or PTSD.
6. In some people with CVD, combination therapy of psychological interventions plus medication may be useful.

Section summary points and clinical consensus statements (2) ESC

MANAGEMENT CONSENSUS STATEMENTS

1. Screening of mental health with validated screening tools is advised after a new diagnosis or CV event, at least once during follow-up and anytime based on clinical judgment of need.
2. Initial simple screening with a two-item measure (i.e. Whooley questions, PHQ-2, GAD-2) can be incorporated into routine practice.
3. A low threshold for mental health screening in people with CVD is advised, considering the high prevalence of mental health conditions in people with CVD and its impact on outcomes.
4. Following an abnormal result in the initial screening, a longer validated screening instrument should be used to determine if condition severity is low, moderate or high.
5. Psycho-Cardio teams must define who is responsible for the assessment of mental health conditions and how and when it will be done, tailoring it to the specific context and resources.
6. Each Psycho-Cardio team may choose a particular screening tool after careful assessment of its validity, reliability and applicability to their population, but standardized screening tools are preferred for mental health assessment.

MANAGEMENT CONSENSUS STATEMENTS (continued)

7. People scoring high on a screening questionnaire need referral for diagnostic assessment and appropriate treatment by a mental health professional.
8. Applying a stepped care approach to manage mental health conditions in people with CVD is reasonable based on preferences, severity of symptoms and condition, and resources available.
9. Developing and evaluating tailored intervention programmes aimed at alleviating distress of people coping with CVD and caregivers may be useful.
10. Lifestyle measures and psycho-education are useful for all people with CVD while psychological therapies may be helpful for people experiencing depression and/or anxiety.
11. Cardiac rehabilitation is an opportunity to screen people for depression and anxiety and can contribute to improve mental health after CV events or be an opportunity to identify and manage mental health conditions.
12. Avoiding benzodiazepines as first-line therapy in the management of anxiety and depression is advised.

Section summary points and clinical consensus statements (4) ESC

MANAGEMENT CONSENSUS STATEMENTS (continued)

13. Anxiolytics, sedatives, and hypnotics are overused and overprescribed in the general population, especially among the elderly and people with mental health conditions, so careful selection of indications is advisable.
14. Antidepressant use is advised for those with moderate to severe anxiety disorders and depression under the guidance of qualified mental health professionals.
15. The use of antidepressants in HF is only advisable in severe depression symptoms where the risk of untreated depression outweighs the risk of taking antidepressants.
16. In people with ventricular arrhythmias, antidepressants associated with an increased propensity to prolong QTc (such as TCAs and possibly citalopram/escitalopram in dosages over 20 mg), may be switched to newer antidepressants with better safety profiles.
17. Given the frequent interactions between antidepressants and CV drugs affecting their efficacy and safety, therapeutic drug monitoring is advisable to optimize pharmacotherapy and minimize potential side effects and clinically relevant drug interactions.

Severe mental illness and cardiovascular disease

Figure 11

Severe mental illnesses

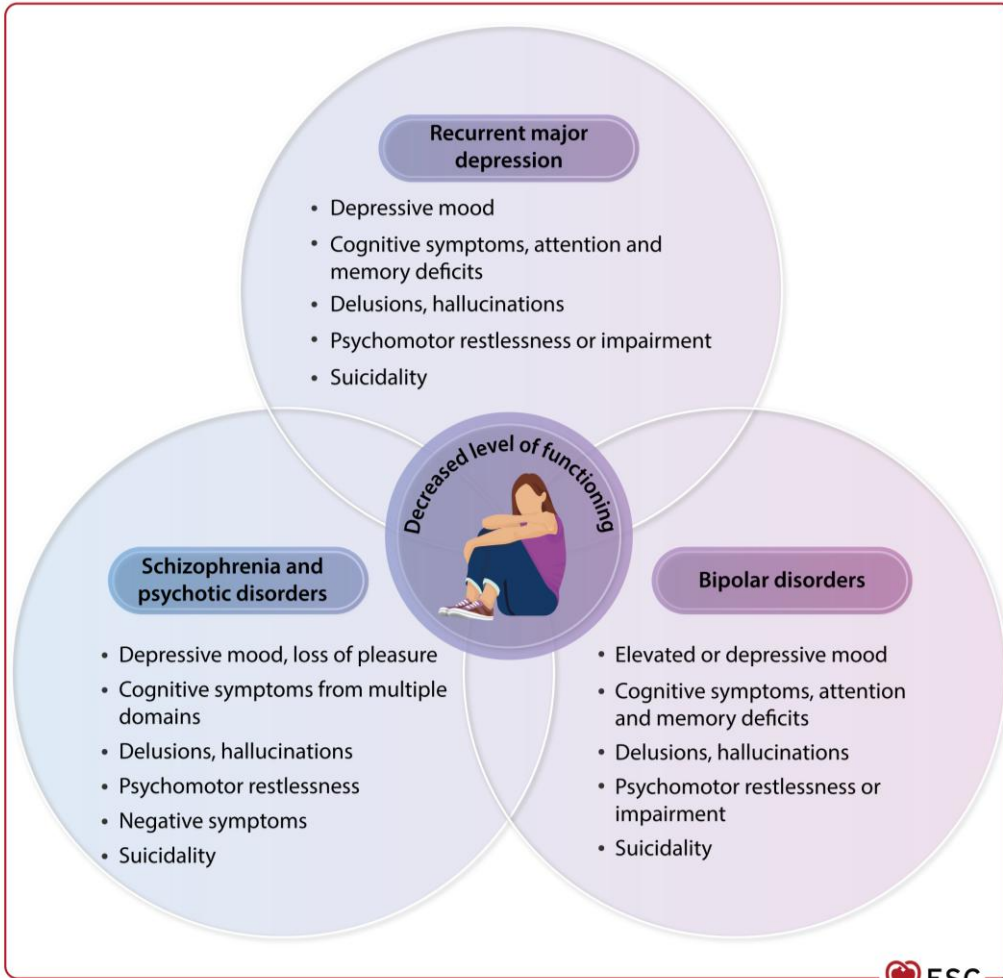


Figure 12

Multifactorial aetiology of cardiovascular disease risk in people with severe mental illness

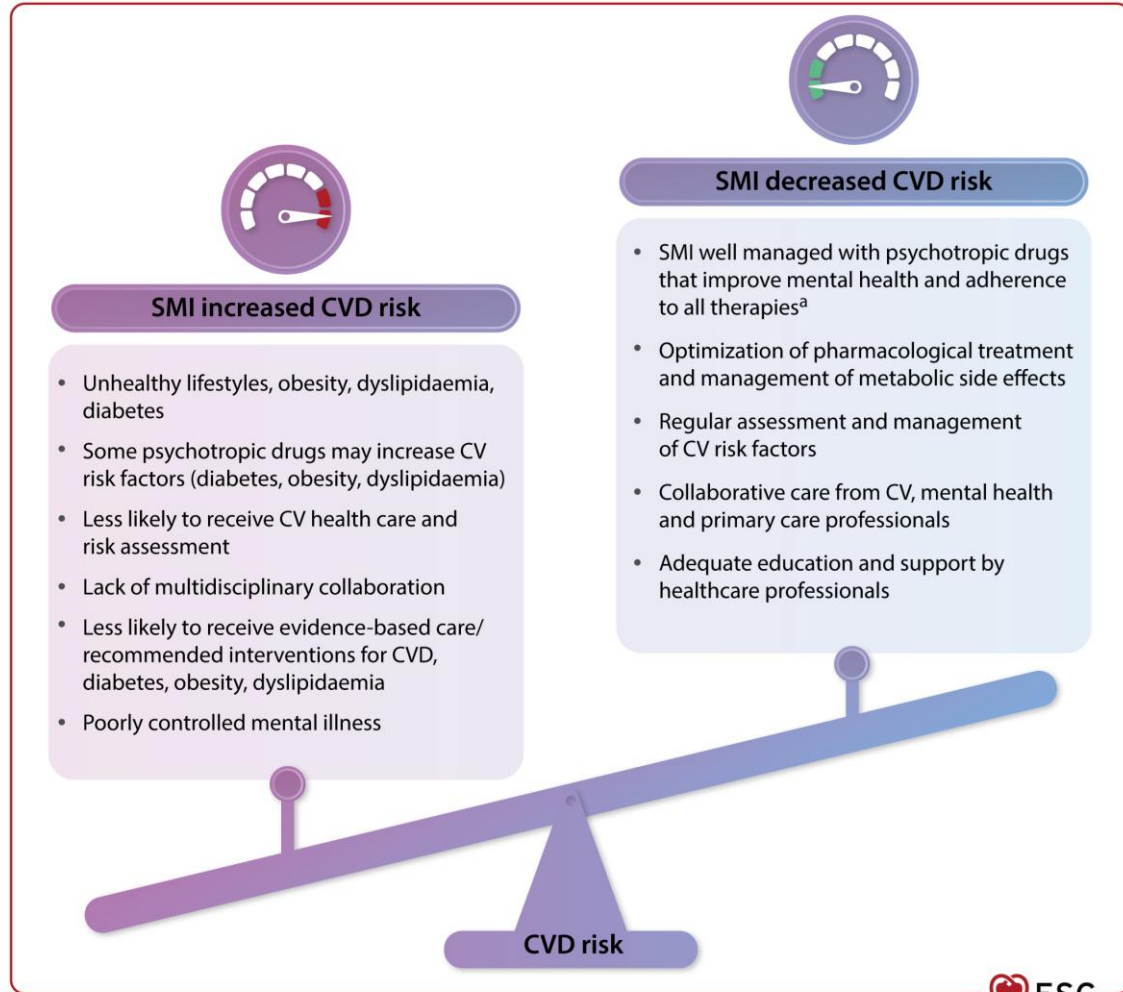


Figure 13

Management of people with cardiovascular disease and severe mental illness

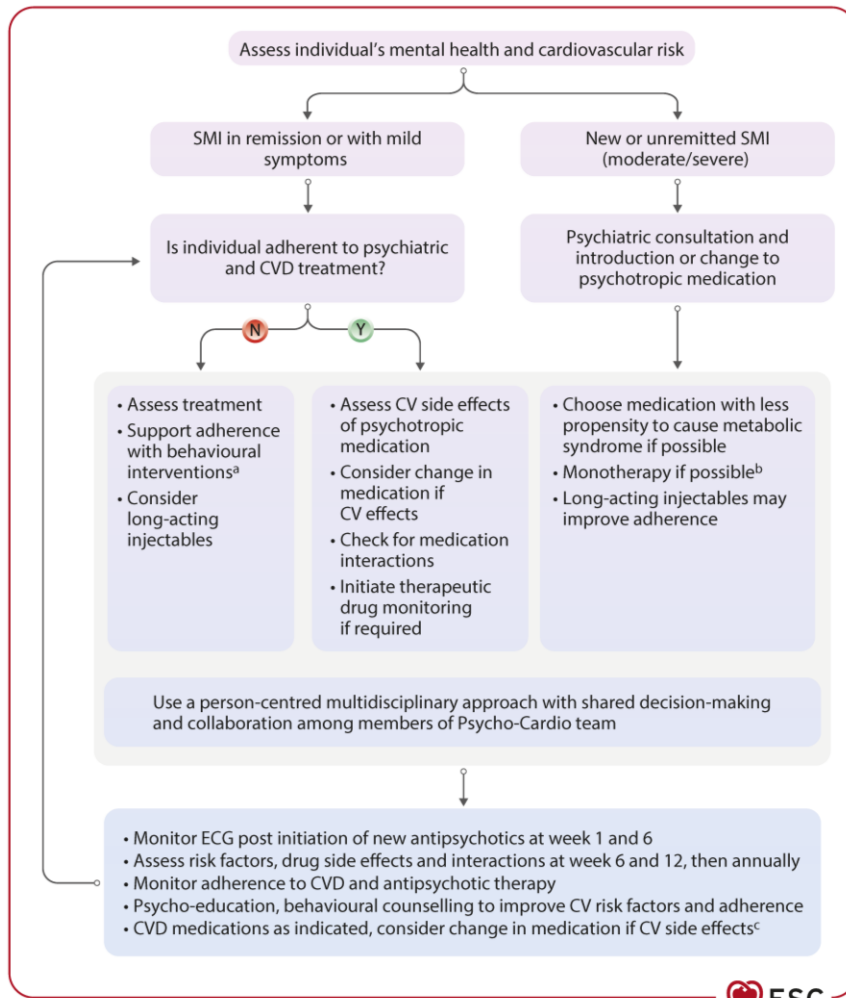
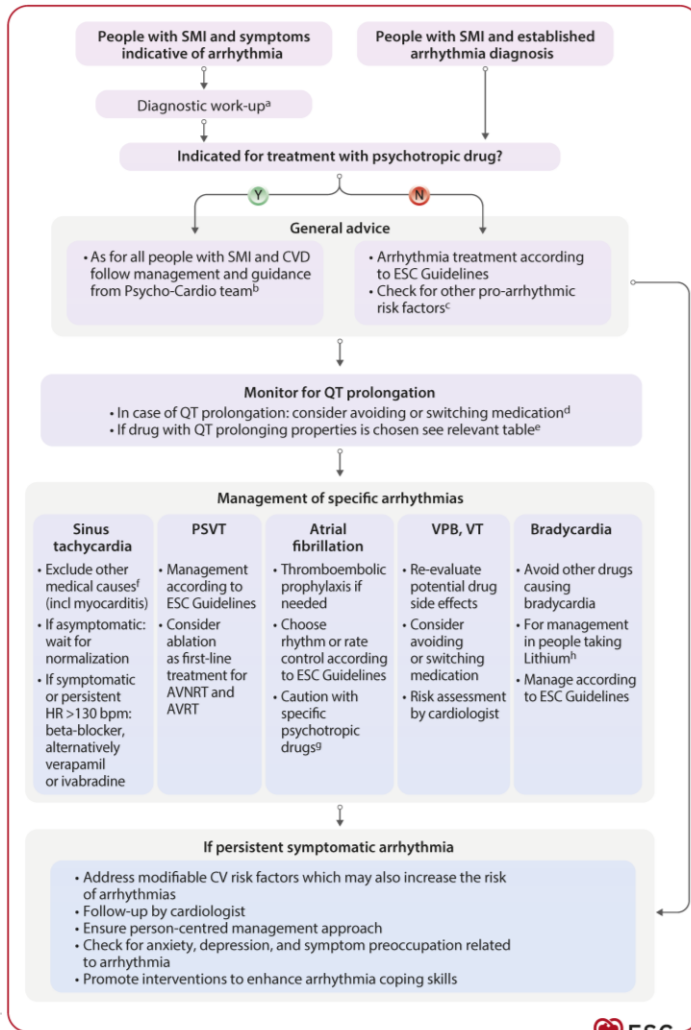


Figure 14

Management of people with severe mental illness and arrhythmias



Summary of the negative effect of different antipsychotics on cardiovascular risk factors (1)

Drug	Weight gain	Hyperglycaemia	LDL cholesterol	HDL cholesterol	Total cholesterol	Triglycerides
Haloperidol	0	++	ND	ND	++	++
Ziprasidone	0	+	0	0	+	+
Aripiprazole	+	++	+	+	++	+
Lurasidone	+	0	+	+	+	+
Cariprazine	+	++	0	+	0	+
Fluphenazine	+	ND	ND	ND	ND	ND
Amisulpride	+	0	ND	+++	++	++
Brexipiprazole	+	+	++	0	++	0
Flupentixol	+	ND	ND	ND	ND	ND
Asenapine	++	0	ND	ND	ND	ND
Risperidone	++	+	++	++	++	+
Paliperidone	++	+	++	++	++	+
Quetiapine	++	+	+++	++	+++	++
Iloperidone	++	++	ND	ND	+	++
Sertindole	+++	+	ND	ND	++	+

Summary of the negative effect of different antipsychotics on cardiovascular risk factors (2)



Drug (continued)	Weight gain	Hyperglycaemia	LDL cholesterol	HDL cholesterol	Total cholesterol	Triglycerides
Zotepine	+++	+++	ND	ND	ND	+++
Clozapine	+++	+++	ND	ND	+++	+++
Olanzapine	+++	++	+++	+++	+++	+++

Management of psychotropic drugs with QT interval prolongation properties (2)

Action	Supporting Information (continued)
Management	<p>Special caution with: sertindole, amisulpride, ziprasidone, iloperidone, risperidone, olanzapine, and quetiapine</p> <ul style="list-style-type: none">• Always aim for the lowest effective dose• Check for other QT-prolonging drugs• Check for drug interactions• Always special caution when new medication is started• Consult https://www.crediblemeds.org/ for specific information on QT-prolonging drug effects <p>• Correct electrolyte imbalances</p> <p>• Address other reversible QT-prolonging factors (e.g. bradycardia, hypothyroidism, starvation/eating disorders, alcohol and substance abuse, myocardial ischaemia)</p> <p>Note other non-reversible potentially QT-prolonging factors: heart failure, ventricular hypertrophy, recent conversion from atrial fibrillation, impaired hepatic/renal function, female sex, age over 65 years</p> <p>If QTc is prolonged (>470 ms) at baseline, treatment initiation is generally not recommended and should be carefully considered based on individualized risk-benefit assessment (Psycho-Cardio team).</p>

Management of psychotropic drugs with QT interval prolongation properties (1)

Action	Supporting Information
Assess symptoms	Typically, asymptomatic In case of torsades de pointes: palpitations, dizziness, syncope, cardiac arrest.
Diagnostic work-up	<ul style="list-style-type: none">• 12-lead ECG providing QTc at baseline and after 1, 6 and 12 weeks after initiating drug• ECG more often in case of QT prolongation• Use Fridericia formula for heart rate correction if there is tachycardia• Check electrolytes: potassium, calcium, magnesium• Ambulatory ECG monitoring in people with symptoms• Exclude possible inherited long QT syndrome.

Management of psychotropic drugs with QT interval prolongation properties (3)

Action	Supporting Information (continued)
Special precautions	<p>Stop treatment with antipsychotic drug (and any other potentially QT-prolonging medication) if:</p> <ul style="list-style-type: none">• QTc >500 ms• Increase in QTc >60–70 ms from baseline.

Section summary points and clinical consensus statements (1) ESC

SECTION SUMMARY POINTS

1. The presence of SMI increases CV risk, especially in younger people.
2. Regular CV risk assessment is essential in people with SMI regardless of age, to prevent the development or progression of CVD, ideally before the prescription of antipsychotics and, afterwards, periodically in all stages of illness.
3. Management of CVD in people with SMI aims to reduce modifiable CV risk factors, including weight gain, diabetes, hypertension, dyslipidaemia, smoking, unhealthy diet, and sedentary lifestyle habits.
4. CVD management in people with SMI benefits from optimizing SMI pharmacotherapy: (i) preferring monotherapy, (ii) using medications less likely to induce weight gain or other CV risks, (iii) monitoring for possible drug interactions and side effects, and (iv) ensuring medication adherence.
5. Efforts to alleviate the impact of psychosocial and stress-related factors are needed in people with SMI.

Section summary points and clinical consensus statements (2) ESC

MANAGEMENT CONSENSUS STATEMENTS

1. Addressing stigma and managing CVD in people with SMI in accordance with CV guidelines and best clinical practice is a responsibility of all healthcare professionals.
2. CV care for people with SMI can be improved by following a holistic person-centred approach, involving close collaboration between the Psycho-Cardio team with psychiatrists, general practitioners, and sometimes other specialists to proactively facilitate the engagement of people with SMI in such programmes.

Mental health in specific populations and situations

Figure 15

Sex and gender differences in the psycho-cardio interaction

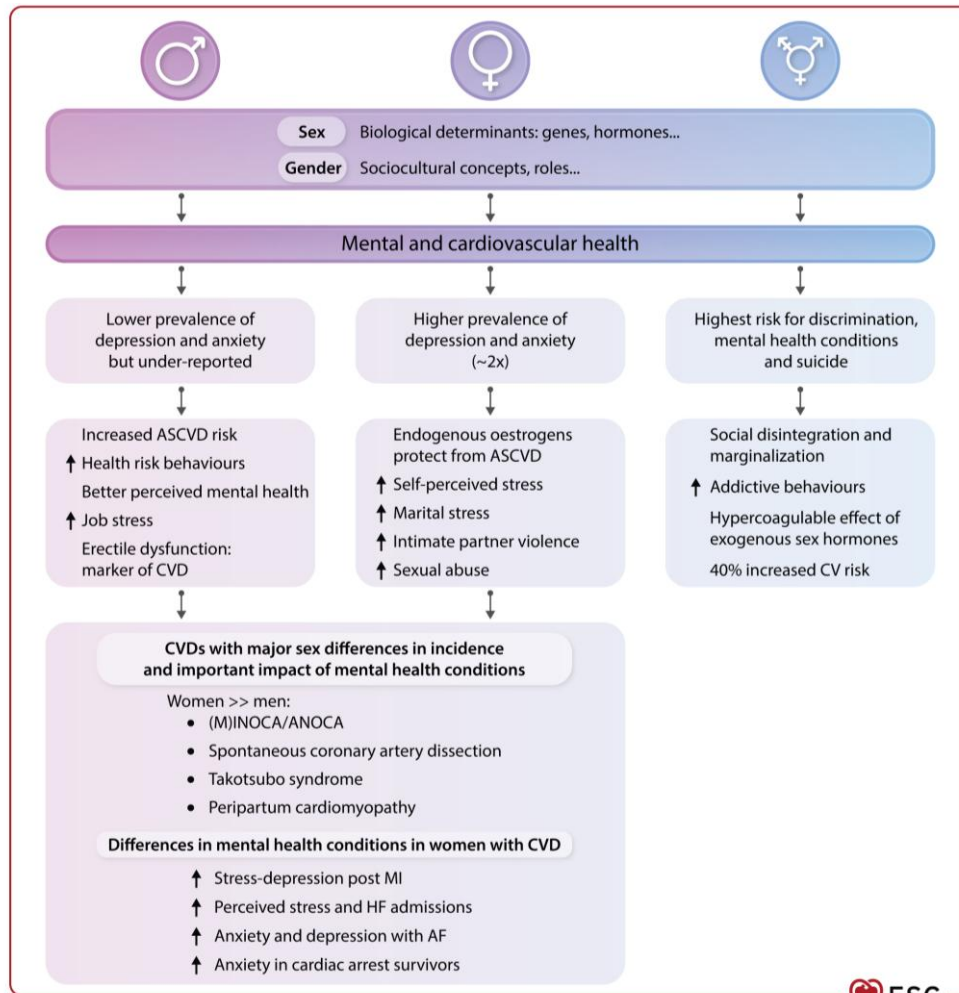


Figure 16

Ageing, mental disorders, and cardiovascular disease

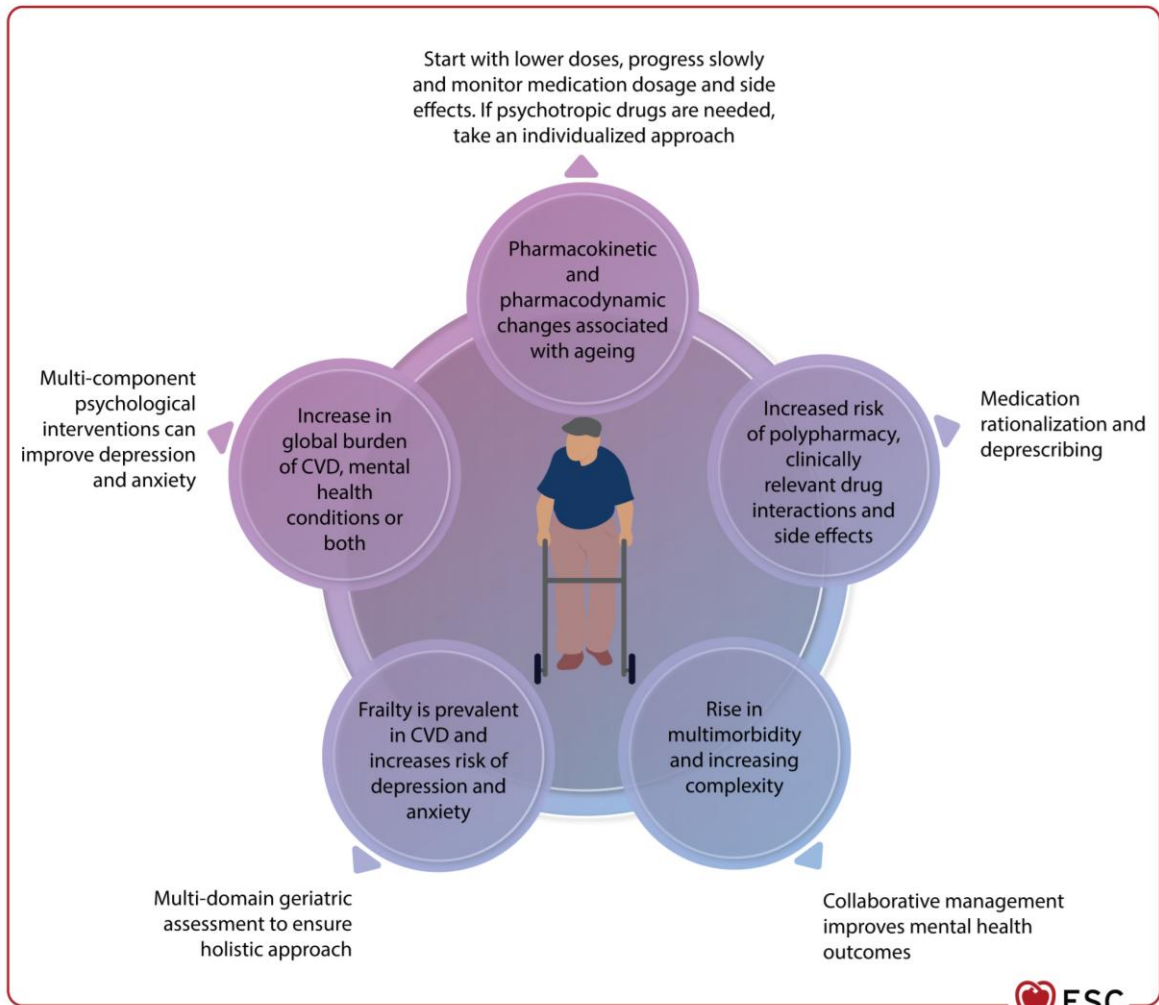


Figure 17

Mechanisms through which socioeconomic deprivation contributes to cardiovascular risk

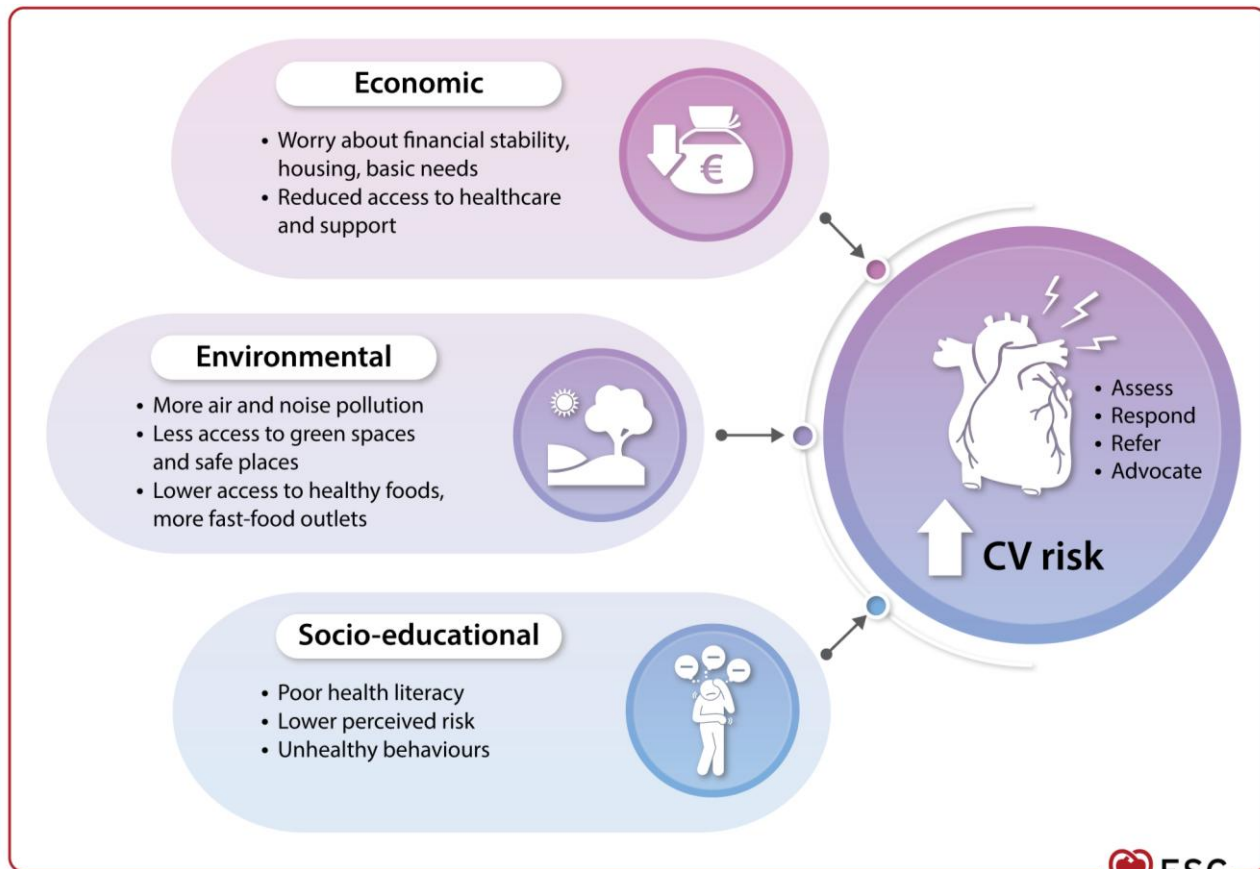


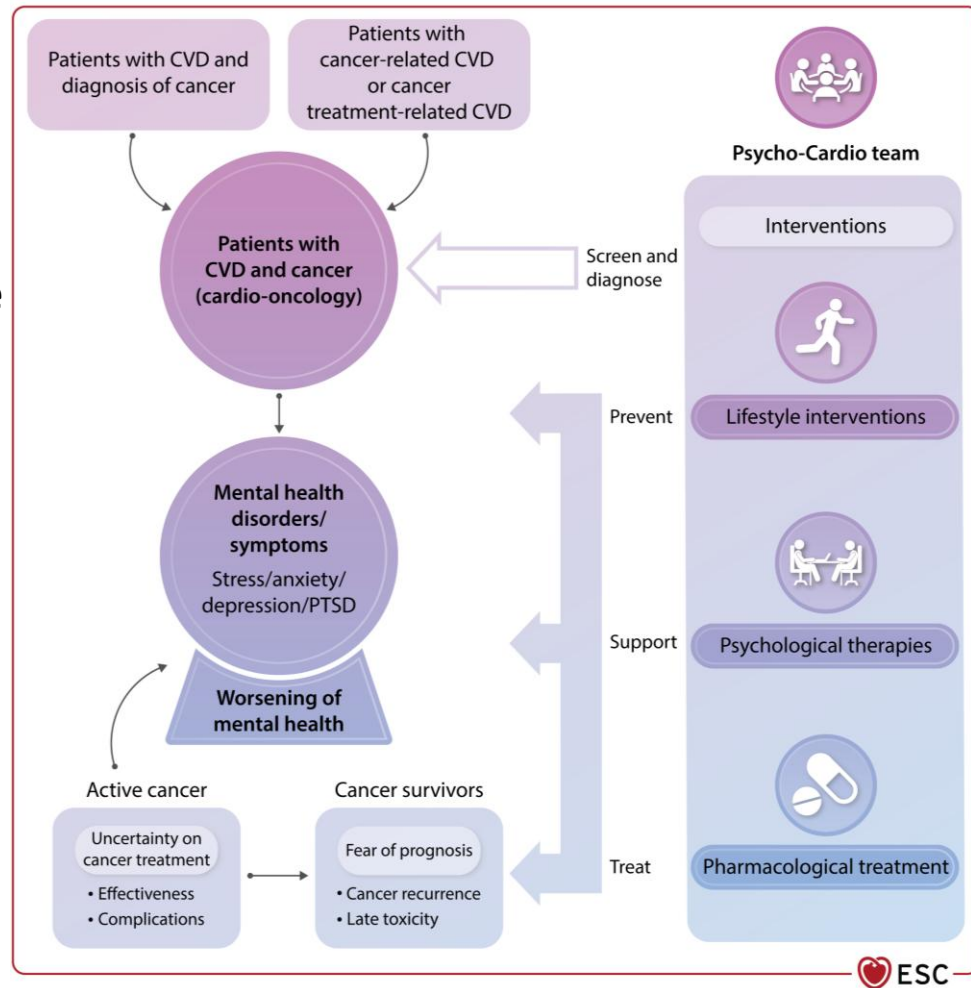
Figure 18

Mental health challenges in migrant populations



Figure 19

Management of mental health in people with cardiovascular disease and cancer



Section summary points and clinical consensus statements (1) ESC

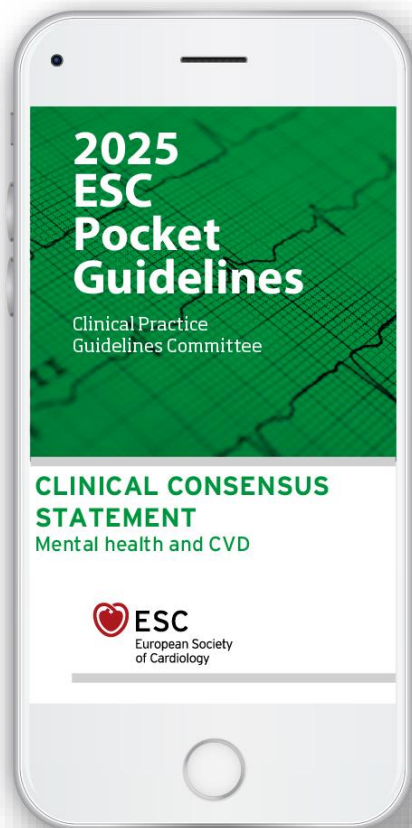
SECTION SUMMARY POINTS

1. Depression, anxiety, and chronic stress show higher prevalence in women compared to men and are associated with increased CVD risk.
2. Women with CVD exhibit higher rates of mental health conditions, which are associated with worse outcomes, particularly depression.
3. Sex differences in the multidirectional relationship between CV and mental health suggest a role of biological and sociocultural components (gender).
4. Evaluation of mental health and frailty in elderly people with CVD is of utmost importance.
5. Socioeconomically deprived populations show higher rates of CVD and mental disorders and require special attention.
6. Cancer, CVD and mental disorders exhibit significant three-way relationships with shared risk factors.

Section summary points and clinical consensus statements (2) ESC

MANAGEMENT CONSENSUS STATEMENTS

1. Psycho-Cardio teams may need to tailor their intervention to the specificities of the target population, with special attention to sex differences, age, frailty, and SES.
2. The appropriateness of antidepressants, drug interactions and side effects in the multimorbid, elderly and frail need careful evaluation by a multidisciplinary team.
3. Migrants and refugees may benefit from directed proactive programmes to assess their CV and mental health due to the high prevalence of conditions and their potential difficulties to access the healthcare system.



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