

Care of the COVID-19 Presumptive or Test Positive COVID-19 Patient at Home, including Management of the Deteriorating Patient

Interim Guidance Guide for General Practitioners (Version 4 - 6/04/2020)



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Quality and Safety in Practice Committee

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This quality of care may be dependent on the appropriate allocation of resources to practices involved in its delivery. Resource allocation by the state is variable depending on geographical location and individual practice circumstances. There are constraints in following the guide where the resources are not available to action certain aspects of the guide. Therefore, individual healthcare professionals will have to decide what is achievable within their resources particularly for vulnerable patient groups.

The guide does not however override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of individual patients in consultation with the patient and/or guardian or carer.

This guidance documents are not policy documents. Feedback from local faculty and individual members on ease of implementation of these guides is welcomed.

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Summary Guide and Key Issues

- 1. Older people and people with comorbidities are most at risk of deterioration
- 2. In most cases with COVID 19, deterioration occurs between days 5-13 with a peak at days 8-9
- 3. New progressive breathlessness and new confusion are the cardinal features of deterioration
- 4. A patient who develops new progressive breathlessness may deteriorate rapidly over 12-24 hours. Clinicians should rapidly respond to new and worsening breathlessness. Refer the patient for urgent assessment to the COVID-19 Hub/ emergency department (ED):

The patient's own GP does not need to perform a physical examination, but can refer as appropriate following a telephone consultation. If a GP chooses to assess patient face to face themselves, after phone triage then please consider points 5 and 6.

- Auscultation is not essential if overall clinical judgment ('gestalt'-gut feeling) of Community acquired (COVID) pneumonia (partly based on temperature >/=38, Respiratory rate >20, heart rate >100 and new confusion) is already met (4).
- 6. Consider calculation of the iNEWS score and if 3 or above refer directly to ED
- 7. GPs may, on occasion, directly refer a patient to the ED without prior face to face review. This is consistent with current practice in urgent clinical situations such as acute MI, Stroke, etc

Introduction

There will be many patients in Ireland in the coming weeks that are presumptive COVID-19 or known to be COVID-19 Positive (here after called COVID-19 patients). It will not be feasible to manage the majority of patients in hospital. The experience of this new illness from other countries indicates that many of these COVID-19 patients will progress along a pathway of mild illness (80%) and will make a good recovery¹. Most of these patients can be managed in the community given appropriate supports.

The remaining 20% of patients may follow a more severe illness pathway with approximately 14% needing supportive care, and 5-6 % suffering critical illness, with some requiring ITU care and early ventilation².

The critical issue for COVID-19 patients at home is to detect the early warning signs of deterioration/ viral pneumonia¹. GPs should undertake an urgent telephone assessment of these patients. If further assessment is required these patients are currently assessed in hospitals but in the future, most will be at COVID-19 assessment hubs. The pathway for palliative care patients is being determined.

This is an evolving clinical scenario. It is expected that guidance and local resource availability will progressively evolve. Clinicians should use their clinical judgment.

Section 1: Clinical Symptoms and Signs of COVID-19 Disease^{2, 3}

The signs and symptoms vary, especially in older patients, those with multimorbidity and immunocompromise. These are the most common:

- Fever (83–99%)
- Cough (59–82%)
- Fatigue (44–70%)
- Anorexia (40–84%)
- Shortness of breath (31–40%)
- Sputum (28–33%)
- Myalgia (11–35%)

Who is most at Risk of Developing Severe Illness and Dying²?

Age

- People in their 80s have a 16% fatality rate
- People in their 70s have an 8 % fatality rate
- People in their 60s have a 4% fatality rate
- People aged 55-64y have a 1-3% fatality rate
- People aged 0-55y is have a fatality rate of <1%

Men

Co-morbidities

- Patients with cardiovascular disease have an 11% fatality rate
- Patients with diabetes mellitus have a 7% fatality rate
- Patients with COPD have a 6% fatality rate
- Patients with Hypertension have a 6% fatality rate
- Patients with cancer have a 6% fatality rate

The HSE/HPSC algorithm considers the following groups most at risk of severe Covid-19 infection:

- Ischaemic heart disease
- Hypertension
- Cerebrovascular disease
- Type II diabetes
- Obesity
- Active malignancy in last 5 years
- Chronic lung disease
- Chronic renal disease
- Chronic liver disease

In addition to the extremely medically vulnerable are a higher risk group as outlined in the <u>HPSC Guidance on</u> <u>Coccooning</u>.

What is the Timeline of Deterioration if it occurs²?

- From day 5 to 13
- Peak at 8-9 days

What are the Cardinal Feature of Deterioration^{1, 4}?

- New progressive breathlessness is the key clinical feature heralding a deterioration.
- Acute onset confusion

Section 2: Management of COVID-19 Patient at Home⁵

Fever, cough, fatigue and dyspnoea are the commonest symptoms in people with severe COVID-19⁴. GPs using clinical criteria may establish a presumptive diagnosis of COVID-19. When the patient rings the GP/OOH with suspected COVID-19, the GP will do an initial telephone assessment of the patient's symptoms. Questions for GPs to use to support the remote assessment of breathlessness are summarised in Appendix 1. Of note, the <u>Roth Score</u> is not recommended for the assessment of breathlessness remotely as it may be normal in patients with severe hypoxia and conversely may be abnormal in patients without hypoxia⁶.

There will also be an assessment of the suitability of the patient's home (see <u>Appendix 2</u>) and the safety of the entire family. Video-consultation, where available, may enhance such consultations. GPs may advise household contacts of a patient with presumptive COVID-19 to adhere to restricted movements (as per HPSC guidance). It is anticipated that for many patients' isolation will be very challenging. Patients with confirmed COVID-19 diagnosis will have contact tracing undertaken by public health.

Medication

No medications have been proven to have any therapeutic benefit on the progress of COVID-19 pneumonia in the home setting. The patient should have adequate paracetamol for management of fever, myalgia and associated symptoms. There is no proven benefit in using steroids or antibiotics or antivirals. The treatment is oxygen and other supportive measures in hospital.

Home Management

GPs may direct patients to the HPSC information leaflet: '*Patient information sheet for self-isolation at <u>home'</u>. Some GPs text the hyperlink to patient. This leaflet outlines the list of symptoms the patient can expect, and the key symptoms (dyspnoea, new confusion) that suggest clinical deterioration, especially around day 5-13².*

The GP may advise:

If you start to feel very unwell, especially with a **change in or difficulty breathing** you should call your GP without delay.

Those caring for an elderly person should watch out for **new onset confusion** and contact the patients GP without delay.

Consider assessing the exercise tolerance of your patient. This is not evidence based. An example of such (nonevidence based) self-assessment might be: Take the **40 Steps Test** twice each day. Walk 40 steps at your normal walking pace. If you do this twice a day during the 14 day period you will be able to assess if it is getting harder for you to do this i.e. you feel short of breath compared to the day before. If this happens you should not delay in contacting your GP

If you are getting worse phone your GP/OOH, or in emergency dial 112 or 999. Remember to say that you have COVID-19 virus.

Section 3: Recognition and Initial Management of the Deteriorating Patient with COVID-19

Recommended approach in an emergency-possible viral pneumonia

This may arise where a GP undertakes a limited brief face to face assessment for rapid diagnosis of possible COVID-19 viral pneumonia.

Key equipment: pulse oximeter, thermometer, stethoscope.

Overall clinical judgment of COVID-19 viral pneumonia is based on a high index of suspicion, clinical history and parameters including:

- temperature >=38
- respiratory rate > 20
- heart rate >100
- and/or new onset confusion

*Auscultation is not essential if overall clinical judgement ('gestalt' – gut feeling) supports a diagnosis of COVID-19 viral pneumonia. We recommend **not** measuring blood pressure or auscultating the chest unless crucial to your decision making.

Document 'limited examination' was performed.

*Rationale for this approach to rapid diagnosis of viral pneumonia.

Auscultation and BP measurement significantly increases contact time and should be reserved for where it is crucial to decision making.

Conclusion: Based on the best available evidence, a restricted examination strategy is suitable for diagnosing pneumonia in the community⁷.

For patients not suitable for home management, the GP uses clinical judgement to refer to one of the following:

- 1. Clinical Hub for face-to-face assessment
- 2. Secondary care: using existing pathways
- 3. Palliative care: pathway being determined currently
- 4. Supported isolation facilities (where available)

A patient who develops new progressive breathlessness may deteriorate rapidly over 12-24 hours. It is essential that clinicians rapidly respond to new and worsening breathlessness. Refer the patient for urgent assessment to the COVID-19 Hub/ED

Patients with possible emergency diagnoses such as angina, chest pain etc. should be managed as normal (direct referral to hospital), and not directed to the COVID-19 hub.

The referral system from GP to the COVID-19 hub will be via Healthlink. It is anticipated that the COVID-19 hubs will operate nationally, from 8am-8pm seven days a week (subject to change). The GP in Out-of-Hours service may refer breathless patients to the COVID-19 hub. It is anticipated that Healthlink referral will be enabled in the OOH service to facilitate COVID-19 hub referral. If the COVID-19 hub is not operational, referral to the ED. **Avoid delay at all times.**

The following 3 assessment tools involve minimal or no patient contact. Clinicians may find these helpful in supporting their clinical decision making.

- 1. Irish National Early Warning System (INEWS) score
- Subjective remote (telephone) assessment of dyspnoea⁹ (see Appendix 1). There are currently NO validated tools to assess breathlessness in primary care. This unvalidated tool may assist GPs in remote (telephone) assessment of dyspnoea.
- 3. Clinical frailty scale⁸: this is designed for older adults (see Appendix 3)

Irish National Early Warning System (INEWS) SCORE

The INEWS scoring system is intended for use in the 'COVID Hubs'.

Irish National Early Warning System (INEWS) Scoring Key for use in the Community with Covid19 (March 2020)								9 (March 2020)	
Score	3	2	1	0	1	2	3	Observation:	Parameter
									score:
Respiratory	≤8		9-11	12 –		21 -	≥25		
Rate (bpm)				20		24			
SpO2 (%)	≤91	92-	94 -	≥96					
		93	95						
Inspired O2				Air			Any O2		
(FiO2)									
Systolic BP	≤90	91-	101-	111 -	≥250				
(mmHg)		100	110	249					
HR (BPM)		≤40	41 -	51 - 90	91 –	111 -	≥131		
			50		110	130			
ACVPU/CNS				А			New		
Response				(Alert)			confusion (C),		
							Voice (V), Pain		
							(P) <i>,</i>		
							Unresponsive		
							(U)		
Temp. (*C)	≤35.0		35.1	36.1 -	38.1	≥39.1			
			-	38.0	-				
			36.0		39.0				
						Total INEWS			
Patients with	Patients with an INEWS score of < 3 may be suitable to be cared for at home						Score		
or in the Community.									

Worked example of INEWS score

Γ

 Table 2: Irish National Early Warning System (INEWS) Scoring Key for use in the Community with Covid19 (March 2020)

Irish National Early Warning System (INEWS) Scoring Key for use in the Community with Covid19 (March 2020)									
Score	3	2	1	0	1	2	3	Observation:	Parameter score:
Respiratory Rate (bpm)	≤8		9-11	12 – 20		21 - 24	≥25	e.g. 18 bpm	0
SpO2 (%)	≤91	92 - 93	94 - 95	≥96				e.g. 95%	1
Inspired O2 (FiO2)				Air			Any O2	Room air	0
Systolic BP (mmHg)	≤90	91 - 100	101 - 110	111 - 249	≥250			130/80mmHg	0
HR (BPM)		≤40	41 - 50	51 - 90	91 – 110	111 - 130	≥131	e.g. 93 BPM	1
ACVPU/CNS Response				A (Alert)			New confusion (C), Voice (V), Pain (P), Unresponsive (U)	Alert	0
Temp. (*C)	≤35.0		35.1 - 36.0	36.1 – 38.0	38.1 - 39.0	≥39.1		37.5	0
Patients with an INEWS score of < 3 may be suitable to be cared for at home or in the Community.						Total INEWS Score	2		

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Oxford COVID-19 Evidence Service

Are there any evidence-based ways of assessing dyspnoea (breathlessness) by telephone or video?

Short answer and clinical bottom line:

We found no validated tests for assessing breathlessness in an acute primary care setting. We found no evidence that attempts to measure a patient's respiratory rate over the phone would give an accurate reading, and experts do not use this test in telephone consultations. Our search identified a potentially promising test (the Roth score), which needs further research.

Pending further research, **the recommendations below are based on expert opinion**. A rapid survey of 50 clinicians who regularly assess patients by phone (on 20.3.20) recommended not using the Roth score (though opinions were mixed) and gave the following advice:

1. Ask the patient to **describe the problem with their breathing in their own words**, and assess the ease and comfort of their speech. Ask open-ended questions and listen to whether the patient can complete their sentences.

"How is your breathing today?"

2. Align with NHS111 symptom checker, which asks three questions (developed through user testing but not evaluated in formal research):

"Are you so breathless that you are unable to speak more than a few words?"

"Are you breathing harder or faster than usual when doing nothing at all?"

"Are you so ill that you've stopped doing all of your usual daily activities?"

3. Focus on change. A clear story of deterioration is more important than whether the patient currently feels short of breath. Ask questions like

"Is your breathing faster, slower or the same as normal?" "What could you do yesterday that you can't do today?" "What makes you breathless now that didn't make you breathless yesterday?"

4. Interpret the breathlessness in the **context of the wider history and physical signs**. For example, a new, audible wheeze and a verbal report of blueness of the lips in a breathless patient are concerning.

Suitability Guide for Self-Isolation at home	YES	NO
Section 1:		
AGE > 70yrs		
Living alone		
Significant co-morbidity/ies		
Significant care need		
Any vulnerable co-occupants (chronic illness, immunosuppressed, pregnant,		
infant, elderly)		
Section 2:		
Individual room to sleep in		
Adequate hand hygiene facilities?		
Adequate toileting facilities		
Support for groceries, prescriptions, other personal needs		
Capacity to understand instructions/advice		

Appendix 2: Assessment of Suitability for Self-Isolation at Home for Person with COVID-19

Guide

- Please use the above guide and clinical judgement to guide decision
- Where ever possible prioritise keeping patients in their own home
- In addition please explore ways of getting patient advice leaflets to patients as appropriate e.g. directing them to HPSC website for guidance
- There is no 'scoring' system with this guide, it's an 'aide-memoire'.

Appendix 3: Clinical Frailty Scale (CFS)

This is designed for older adults.

The CFS requires clinical judgment for individual elderly patients. The CFS is an effective measure of frailty¹. The CFS should not be applied to younger people with long term stable disabilities (cerebral palsy). In patients aged over 65, without stable long-term disabilities (for example, cerebral palsy), learning disabilities or autism, the Clinical Frailty Scale (CFS) score can be used as part of a holistic assessment.

In any patient aged under 65, or patient of any age with stable long-term disabilities (for example, cerebral palsy), learning disabilities or autism, do an individualised assessment of frailty and do not use the CFS score. Consider comorbidities and underlying health conditions in all cases.

This is a formal guide to the patient's frailty state, used extensively in secondary care, and refers to the patient status prior to acute illness. It may help clinicians to assess the optimum treatment pathway. The burden of treatment, likely clinical improvement and resource utilisation are issues to consider. Patients with a score of 1-4 may benefit from intensive support, while those with a score of 8-9 are unlikely to benefit from intensive support but may benefit from general hospital care such as oxygenation and hydration.

Clinical Frailty Scale*

I Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.





6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.



7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 Very Severely Frail – Completely dependent, approaching the end of life.Typically, they could not recover even from a minor illness.



9. Terminally III - Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In severe dementia, they cannot do personal care without help.

* I. Canadian Study on Health & Aging, Revised 2008.
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 </u>

Appendix 4: Flow Chart

Telephone assessment patient with suspected Covid-19 in General Practice Clinical symptoms: fever, cough, fatigue, anorexia, shortness of breath, sputum, myalgia, close contact with a known case

Consider risk factors for severe disease: age, male, co-morbidities (diabetes, cardiovascular disease COPD, cancer) obesity, immunosuppression.

Features of deterioration: deterioration occurs between days 5-13 with a peak at day 8-9 new.

- progressive breathlessness (assess using Subjective Dyspnoea assessment
 - acute onset confusion
 - temperature >=38 degrees Celsius
 - respiratory rate >20 breaths per minute
 - heart rate >100 beats per minute.

Covid-19,well with mild symptoms	Covid-19, unwell, deteriorating
Self management fluids, paracetamol	Refer Covid-19 clinical hub
Assess suitability patients home for self-isolation	Refer ED
Provide HPSC leaflet (link)	Refer palliative care
Safety netting/advise re red flags: change in breathing, new onset confusion, reduced exercise tolerance	Refer supported isolation facility (if available)

Management:

Face to face assessment patient with suspected Covid-19	Clinical symptoms: fever, cough, fatigue, anorexia, shortness of breath, sputum, myalgia, ? Close contact with a known case												
	Consider risk factors for severe disease: age, male, co-morbidities (diabetes, cardiovascular disease COPD, cancer) obesity, immunosuppression.												
	It is reasonable to make the diagnosis of COVID-19 viral pneumonia based on overall clinical												
	judgement & partly based on • Temperature >=38 • Respiratory rate > 20 • Heart rate >100 • <u>And</u> new confusion We recommend <u>not</u> measuring blood pressure or auscultating the chest unless crucial to your decision making (document limited exam performed) Consider using iNEWS and Clinical Frailty Score to aid decision making • iNews (>3 recommend ED assessment <u>but</u> may opt for palliative care)												
							Management:						
								Covid-19, well with mild symptoms	Covid-19, unwell, deteriorating				
								Self management fluids, paracetamol					
								Assess suitability patients home for self-isolation	Refer Emergency department				
								Provide HPSC leaflet (link)	Refer palliative care				
		Safety netting/advise re red flags: change in											
		breathing, new onset confusion, reduced exercise tolerance	Refer supported isolation facility (if available)										

Figure 1: Assessment pathways for COVID-19

