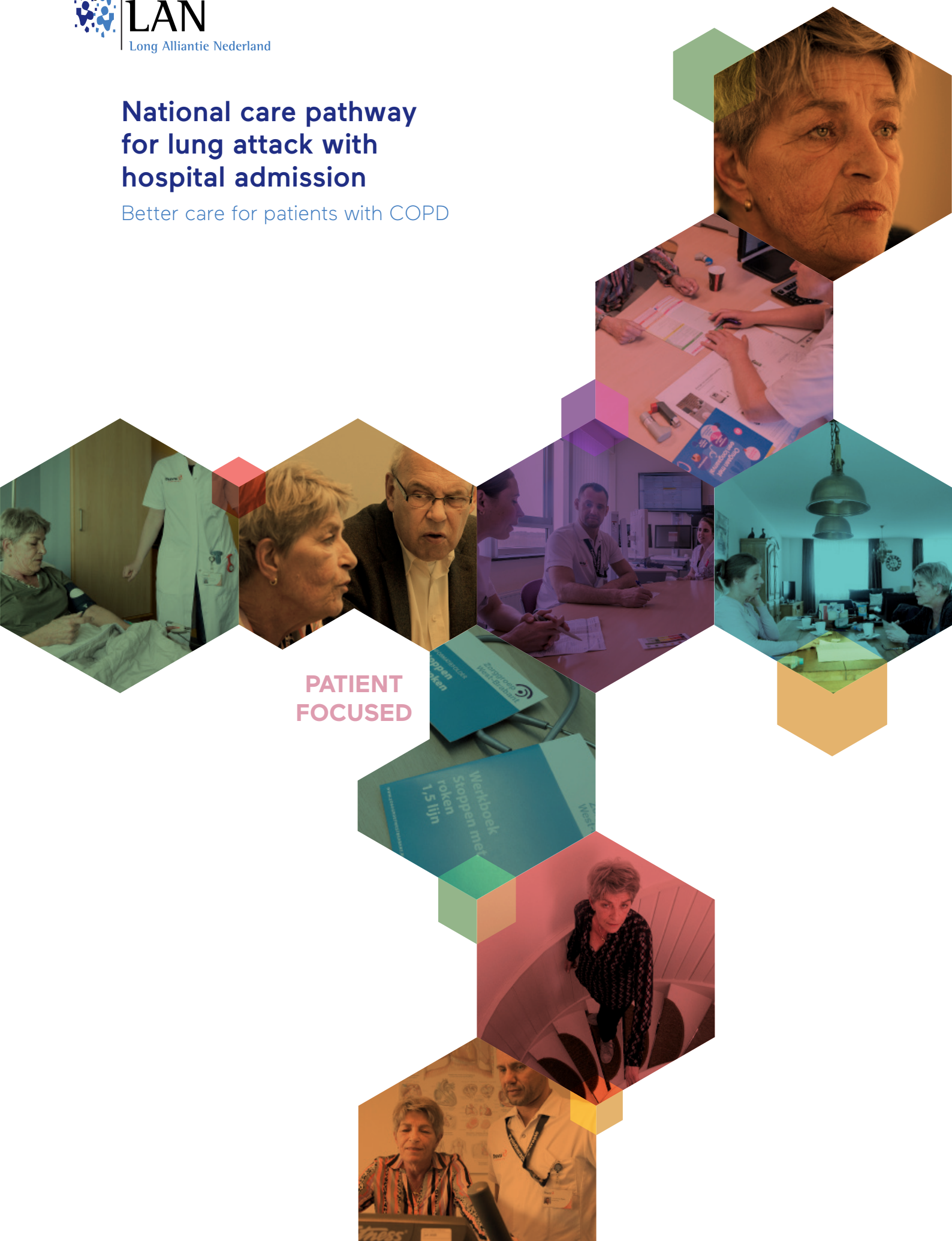
LAN
Long Alliantie Nederland

National care pathway for lung attack with hospital admission

Better care for patients with COPD



National care pathway for lung attack with hospital admission

DURING HOSPITALISATION

AFTER HOSPITALISATION

1. INTEGRAL HEALTH STATUS

2. ADVANCE CARE PLANNING (ACP)

3. CARE PLAN AND LUNG ATTACK ACTION PLAN (ICP AND LAAP)

4. SMOKING CESSATION

5. MEDICATION, THERAPY COMPLIANCE AND OXYGEN

6. MOBILITY AND EXERCISE

7. NUTRITIONAL STATUS

8. COMORBIDITY

	Admission day	Day 2	(Day before) discharge	Week 1	Weeks 2 - 4	Monthly and/or annually
		Day 2 interview	Discharge interview	Contact week 1	Monitoring **short** term	Monitoring **long** term
1. INTEGRAL HEALTH STATUS	MONITORING QUALITY OF LIFE 1.1	Discuss cause and reason for hospitalisation 1.2 Global inventory of integral health status 1.3	Indication multidisciplinary lung rehabilitation? 1.4	MONITORING QUALITY OF LIFE 1.1	Broader inventory if necessary 1.5	Annual evaluation update 1.6
2. ADVANCE CARE PLANNING (ACP)		Manage wishes and expectations 2.1	Discuss expectations for returning home 2.2		Start ACP interviews if necessary 2.3	Evaluate update 2.4
3. CARE PLAN AND LUNG ATTACK ACTION PLAN (ICP AND LAAP)		Identify patient actions with worsening symptoms 3.1	Start LAAP 3.2	Check motivation point of contact and approach to worsening symptoms	Draw up LAAP 3.3 Start creating ICP 3.3	Evaluate update 3.4
4. SMOKING CESSATION		Identify smoking habit and quitting motivation 4.1	Motivated? Start treatment 4.2	Cessation attempt? Check progress	Update smoking status and quitting motivation 4.3	Evaluate update 4.4
5. MEDICATION, THERAPY COMPLIANCE AND OXYGEN	Identify medication and therapy compliance 5.1 Adjust medication Check inhalation technique 5.2	Discuss medication and importance of therapy compliance 5.3	Check desirability of oxygen after discharge 5.4	Check and discuss medication	Check and discuss medication 5.5 Check added value of oxygen use 5.6	Check and discuss medication 5.7
6. MOBILITY AND EXERCISE	Start mobilisation 6.1	Identify mobility and energy distribution at home 6.2			Draw up care plan 6.3	Evaluate update 6.4
7. NUTRITIONAL STATUS		Identify and optimise nutritional status 7.1			Draw up care plan 7.2	Evaluate update 7.3
8. COMORBIDITY	Identify comorbidity 8.1				Comorbidity diagnostic and treatment plan 8.2	

LEGEND

- Action
- Subaction
- Evaluation

Fewer hospital admission days for lung attacks necessary and feasible. Summary

Necessity

There are more than 600,000 people with COPD in the Netherlands, and this number is increasing. Every year, 30,000 people in the Netherlands are hospitalised for a lung attack. It concerns a total of approximately 200,000 hospital admission days, half of which are readmissions; 20% of these patients are even readmitted three or more times a year for a lung attack.
In the Netherlands, we attempt to not use the general medical term 'exacerbation' and have reframed to use the words lung attacks, to facilitate communication with patients and their beloved. It also serves to stress to both patients and caregivers that two year mortality after a lung attack (COPD) is higher than after a heart attack.

Lung attacks cause a lot of suffering to patients and their environment by greatly, and often permanently, increasing the burden of disease and care. More than 10,000 people die of COPD every year, largely as a result of lung attacks.

The health care costs of COPD will triple until 2032. More than 50% of all COPD-related health care costs are attributable to admissions as a result of lung attacks.

COPD care pathway success factors

The national care pathway for a lung attack with hospital admission has shown in a large-scale pilot that the number of admission days is substantially reduced with better job satisfaction for care providers, and at least an equal quality of life and patient satisfaction.

The success factors of the care pathway can be divided into three categories:

1) Increased problem awareness

Regions are more aware of the fact that there are many hospital admissions for lung attacks and that a relatively small group of patients cause a lot of readmissions. There is greater awareness that many (re)admissions can be prevented by tracing the underlying causes of the severity of the lung attack and acting accordingly.

2) Care organisational improvements

Without a structured approach and organised cooperation, the variation in practice between institutions, between care providers, and between the actual times of admission (morning, afternoon, working days, weekends, etc.) is enormous. Working with the care pathway provides structure, for example by appointing a monitor/care coordinator, as well as by organising a transmural collaboration/transfer between second and first line work settings, geriatric rehabilitation and intensive collaboration with home care providers. Structure and good organisation, both during and after admission, contribute to a decrease in the number and duration of (re)admissions.

3) Substantive health care improvements

Working according to the national care pathway has shown that COPD patient care is improved and the number of admission days is reduced. Interventions that have a significant association with fewer days of admission are:

- initiation of contact moment in the first week after discharge;
- **(**non-)pharmacological smoke control in the year following hospitalisation;
- discussion of the Lung Attack Action Plan (LAAP) in the year after hospitalisation;
- check on inhalation medication technique in the year after hospitalisation.

Content of COPD care pathway

Continuum, patient central, identification and implementation

The care pathway for COPD attack with hospitalisation describes the structured care provided during admission and after discharge, to patients with COPD who are admitted for a lung attack. Continuity of care, listening to the needs of the patient and good interdisciplinary collaboration are requirements.

Readmissions are prevented by giving the patient more insight into the cause of the admission, the recognition of, and early action in the event of an exacerbation of symptoms. In addition, patients are given the opportunity to become coordinators of their own care plan.

During hospitalisation: identifying problems and opportunities, implementation after hospitalisation

One of the most important tasks concerning the treatment of the patient during admission is to identify and raise the issue of problems and opportunities, most of which will be discussed and dealt with together with the patient after the admission.

To this end, the care pathway during admission describes some crucial moments of contact between patient, informal carer and care provider.

1) The day-2 interview

The purpose of the day-2 interview is to find out at an early stage what the underlying reason for the admission is; this can serve as a starting point for drawing up the care plan. In addition, the different expectations of the patient, the informal carer and the care providers regarding admission and recovery will be streamlined. This involves looking forward to see what is required for a successful journey back home. Specifying the target discharge date is a fixed part of this.

2) The discharge meeting

The purpose of the discharge meeting is to find out whether the patient (and his/her (in)formal carer) have sufficient confidence in the discharge and can take the necessary actions in the event of increasing complaints. In addition, the essential activities of the first few weeks will be discussed. This includes checking whether the patient knows who the first point of contact will be in the coming period.

Some other topics that are discussed during admission are the early mobilisation of the patient, checking the inhalation technique, therapy compliance, and identification of smoking habits and quitting motivation. Also, in case of a positive quitting motivation, smoking cessation counselling should be started immediately. In addition, an admission is a good time to check whether a patient is eligible for Advance Care Planning meetings after admission, i.e. proactive care planning.

After admission: prevent relapse and support care plan

Additional efforts to prevent readmissions are necessary, as about half of hospitalisations for COPD are readmissions. These readmissions usually take place in the first few weeks after admission. For this purpose, several contact moments are planned with the patient, (in)formal carer and care provider.

3) Week 1 contact

Within one week after admission, the patient is contacted to check how the patient is doing and whether all the agreements made are clear. In this way, it is estimated whether or not things are in order and it is ascertained whether the patient is lapsing back into old habits. Regions attribute evident added value to home visits and/or eHealth applications, especially for patients who are admitted repeatedly. During a home visit, discussed matters can be discussed (again) in one's own familiar environment, including the actions to be taken in the event of a worsening of complaints and/or a relapse into a certain lifestyle. It also provides an overall impression of the patient's habits and behaviour.

4) Short term: drawing up care plan

After about two weeks, the recovery from the lung attack is central and a first step is made to draw up an Individual Care Plan together with the patient. The patient's personal targets form the guideline for this care plan. Together with the patient, short-term/long-term objectives are formulated and the patient is supported in achieving this goal. If specific actions and/or health care professionals are required, these will be engaged. Specific components that may be focussed on include lifestyle factors such as smoking, exercise and nutrition, the proper inhalation of medication, dealing with any fear of suffocation and/or discussing any wishes (in due course) for a dignified end to life.

5) Long term: evaluation and adjustment

Over time (and ultimately at least annually), follow-up appointments are made, in which the central issue is the patient's integral health status and the personal targets of the patient are worked on. Objectives are evaluated and adjusted.

Schematic view of care pathway for lung attacks with hospitalisation

The care pathway is shown schematically in the Time Task Matrix. The horizontal axis shows the contact moments plotted in time. The vertical axis points at the different interventions per topic. The various topics, referred to as elements, are: Integral Health Status, Advance Care Planning, Individual Care Plan and Lung Attack Action Plan, Smoking cessation, Medication, therapy compliance and oxygen, Mobility and exercise, Nutritional status and Comorbidity.

Lessons from the 2015-2018 pilot period

The national care pathway for a lung attack with hospitalisation has been tested in eight regions. Eleven hospitals, eleven care groups and six home care institutions were closely involved in the study. In the cohort study, at least 600 patients admitted for a lung attack were followed during one year. From a total of 752 patients, there was enough data for the analysis of success factors.

During the pilot, it became clear that implementing the care pathway is a process of trial and error. Do not underestimate the implementation phase and proceed systematically. The care pathway describes which activities are carried out and, where possible, indicates how this can be done well or even in the best possible way. At the national level, there is no definition of *who* should carry out the intervention, as the options vary greatly from region to region. Who does what, should be determined regionally.

The national care pathway should be seen as a template and requires regional implementations, in which all parties concerned (general practitioner, pulmonologist, nurses, paramedics, health insurer and possibly also social and welfare organisations) are involved at an early stage.

Process-based work directs the steps that need to be taken to develop, implement, evaluate and continuously monitor a care pathway. The seven-phase model of the Clinical Paths Network has been applied here.

In addition to process-based work and providing it with it time and manpower, it is important not to work on too many topics at the same time. Make a choice and choose a maximum of three topics that will be focused on first. Interventions that make the most significant contribution to the reduction of admission days are preferred. In addition, regional factors such as the current situation, the expected improvement potential and whether there is sufficient support from all parties involved (patient, health care providers and health insurer) should be taken into account.

Future

The LAN asks all health care organisations, health care providers, health insurers, government authorities and other parties involved in COPD care to start implementing the care pathway in order to systematically reduce the number of admission days with COPD. This prevents suffering in COPD patients, increases the job satisfaction of health care providers and contributes to keeping health care expenditure under control.

Because of the positive effects of working with the care pathway, we expect that lung patients and patients' associations, health care providers, health insurers, governments and inspectorates throughout the Netherlands will eventually emphatically request that systematic efforts be made to reduce the number of admission days for COPD. This is in the interest of COPD patients and the quality, accessibility and affordability of care.

With the support of the Ministry of Health, Welfare and Sport and *Innovatiefonds Zorgverzekeraars*, the Lung Alliance Netherlands (LAN) will continue to support working with the care pathway for a lung attack with hospitalisation in the coming years. All materials developed in the process will be made available to regions that are working on reducing hospitalisation days due to lung attacks. Furthermore, the care pathway will be integrated into guidelines, quality and care standards and purchasing conditions.

Guide for regions starting with the COPD care pathway

The guide is subdivided into
- **Phase 1:** focus areas prior to and at the start of the care pathway.
- **Phase 2:** focus areas that can be specified once the care pathway has been started.

Phase 1: Focus areas prior to and at the start of the care pathway

1. There is **support** in the region for reducing COPD hospitalisations.
   - This support exists within the hospital(s), care group(s) and home care institution(s);
   - This support is evidenced by the (written) commitment of the board and the employees responsible for the implementation of COPD care);
   - If other parties wish to be equally involved, they must also show their support and (written) commitment.
2. **Transmural care** is preferable. Therefore, the region in which **collaboration** between the hospital (pulmonology department), care group(s) and home care institution already exists has the advantage. This collaboration is preferably embedded in a regional structure:
   - Consultations are already taking place periodically;
   - The most important stakeholders know each other: pulmonologists, respiratory nurses, home care, care group/GPs/assistant practitioners;
   - There are contacts with adjoining disciplines: pharmacists, physiotherapists, dieticians, occupational therapists, social workers, etc.;
   - If this (structural) collaboration does not yet exist, setting it up is a priority. In addition, some interventions can be taken up internally without formal transmural collaboration. Think of collaboration between the outpatient/nursing department and operational interventions such as the day-2 interview or medication technique.
3. There is adequate **support for the collaboration**. Reducing the number of COPD hospitalisation days requires long-term commitment and patience. This requires a regional composition of:
   - A **project team** responsible for the implementation of the project. This team consists of at least:
     - a substantive ambassador involved in the primary process (e.g. a respiratory nurse);
     - a medical owner, responsible for medical decisions (doctor);
     - a line manager, responsible for allocation of tasks (e.g. team leader);
     - a project supervisor (e.g. policy advisor);
     - expertise in Excel, HIS/KIS/ZIS and production figures is also available on demand.

     NOTE: lessons learned show that this project team should not be too large either. If necessary, a different composition for different goals may be required, but always will include at least the four team members mentioned above.
   - A **steering group** in which all parties that have committed themselves (in writing) are represented. This steering group has the task of sketching the broad outlines, is in a position to implement decisions and ensures that decisions taken are also supported (financially or in terms of personnel). Involvement and/or cooperation of the management levels are therefore a requirement.

- A **broad-based advisory group** in which all parties involved in the care of the COPD patient are represented. This support group meets several times to be consulted and to ensure broad support throughout the region. In addition to care providers such as pulmonologists, respiratory nurses, paramedics and pharmacists, patients and informal carers are also represented. Social workers, municipalities and volunteer organisations may also be good additions to this team.
- This support is committed for at least two years. During this time, project members may leave the organisation, but it is important that there is an administrative commitment to ensure adequate succession in the project in those cases.

4. There is **support** from the preferential **health insurer(s)**, and this support has been translated into:
   - The health insurer's approval that the region in question will start work on the systematic reduction of hospitalisation days for lung attacks;
   - Preferably, the involvement of the health insurer in the allocation/release of funds for the regional support of the collaboration. Possibly translated into separate or regional (production) agreements on how to deal with the shift in demand for care: fewer and more intensive hospital admissions, more intensive aftercare provided by the home care organisation or GP/assistant practitioners.
5. The **input** from **patients** is adequately safeguarded, e.g. through involvement (in a sounding board group, etc.) of the local (Dutch Lung Fund) patients' association, 'Care Concern' or client councils.
6. There is a **clear picture of the production figures/numbers of patients** in the region and there is a willingness to share these figures with each other. This involves:
   - Numbers of COPD patients in primary care of hospital, care group and home care institution;
   - Number of hospitalisations for pulmonary diseases and number of readmissions;
   - Willingness to keep track of a limited number of indicators that (a) map one's own progress in implementation and (b) are needed (nationally) to compare regions with each other and with historical data.
7. **Regional focus** is present
   The systematic and structural reduction of COPD hospitalisation days yields a lot: better quality of life for patients and their informal carers, more job satisfaction for care providers, freeing up capacity in the hospital, etc. Implementing the project requires a lot of dedication and time. It requires all those involved to focus their efforts on the proper implementation of this extensive and long-term project. This often means that only one or two projects of this kind can be run simultaneously per region.
8. **Continuity is guaranteed**
   Ultimately it is necessary to continue the renewed approach sustainably in the region. A plan is needed for the continuity of the approach, so that the new care pathway naturally becomes the standard care in the region.

Phase 2: focus areas when working regionally with the care pathway

1. Use the **care pathway for a lung attack with hospitalisation** to give advice on the process and the interpretation of interventions.
2. Make use of the **national knowledge and expertise** regarding the LAN and other regions that have already gone through this process. If necessary, make use of buddy regions in your own area.
3. Make use of the **seven-phase model** of the Belgian-Dutch clinical paths network – and/or a comparable method – as a guideline for the process to be followed and follow all steps closely. This instrument gives direction to the steps that need to be taken to develop, implement, evaluate and continuously monitor a care pathway.
4. Take a regional “picture” (phase 3): how far away are we from the **ideal situation** as described in the national care pathway? Which things are going well and which ones could go better? How many COPD patients are hospitalised on an annual basis? Use the sounding board group for a clear **overview of the perceived bottlenecks.**
5. Set content **priorities** (phase 4): The care path, with all its topics and interventions, is extensive; prioritisation is realistic. It requires a great deal of dedication from the various relevant parties, who (usually) suffer from a lack of sufficient time, manpower and financial resources. So it may be too challenging to implement all key interventions simultaneously.

   Observe the following when prioritising:
   - Experiences and/or analyses from the pilot show that a high degree of urgency was required for the interventions:
     - Day-2 interview;
     - Contact week 1;
     - Inhalation instruction;
     - Lung Attack Action Plan;
     - Smoke cessation supervision;
     - Continuity of care and collaboration within the region.
   - Each region should make its own list of priorities. For example, first choose three topics and evaluate them continually.
   - Some recommendations for making choices:
     - The initial situation in the region; Find out how far the region is from the ideal situation (phase 3 of the seven-phase model; diagnosis and objectification). It is important here that what is already going well does not need to be changed;
     - Is it to be expected that the greatest gains in the region can be made with regard to the chosen interventions in terms of improvement of care and a reduction in the number of admission days?
     - Is there enough enthusiasm to tackle a particular component in the region as well? If necessary, start on a small scale (e.g. three organisations) and expand when things go well (see phase 1, point 2);
     - Is it realistic to expect to obtain positive results in a fixed time period?
     - Take into account the expected effort/result ratio;
     - Find a good balance between the above points.

- Define a maximum of three SMART objectives per period (year). The 3-blackboard method, described in the 7-phase model, can help here.

6. Put together a **regional project team with a limited number of people**. In addition, set up a broader regional sounding board group, which will be informed and can come up with helpful ideas at certain times and which can also be involved in the (smaller) project team in due course when the number of interventions is increased. This way, the project team remains decisive, with broader support (see phase 1, point 3 for the composition of participants).
7. For the provision of good multidisciplinary transmural care, **information exchange** between care providers, but also with the patient, is essential. A good ICT system is desirable and secure e-mail exchange must be ensured.
8. Consider the possibilities of involving (pharmaceutical) companies in **support of the project/process**. Several companies have developed instruments and strategies that could support regions. AstraZeneca, Boehringer-Ingelheim, Chiesi Pharmaceuticals, GSK and Novartis were particularly involved in the development of the national lung attack care pathway.
9. Pay attention to the **process-based evaluation** (steps 6 and 7). Experience shows that attention may slacken and/or other matters within the organisation gain more priority. The care pathway should also lose the status of project and **be continued in current regular care.** It is advisable to maintain the project team for this purpose, with the only adjustment being the removal of the team member project leader; after all, it is no longer a project, but current regular care. Also provide anchoring in the management structure by making it a fixed item on the agenda, e.g. in team meetings, and having it included in the team leader's monthly reports.
10. Spend a lot **attention to a good atmosphere** in the regional collaboration and celebrate successes. For instance, by checking at the patient level how much better patients are doing and how many new hospital admissions have been prevented. Organising a regional symposium may also be useful here.
11. **Communication** in a transmural care pathway requires a lot of attention and time, but pays off in the long run.

More information about the Dutch National care pathway for lung attack with hospital admission can be found at **longalliantie.nl/zorgpad.**

COOPERATION

LAN
Long Alliantie Nederland

Stationsplein 125
3818 LE Amersfoort, phone 033 421 84 18
info@longalliantie.nl longalliantie.nl/zorgpad
Triodos Bank IBAN NL17 TRIO 0390 2279 19

The national COPD pathway has partly been made possible by Innovatiefonds Zorgverzekeraars.