

KRP

LOGBOOK FOR DISPENSING MEDICINE

Study and documentation tool for clinical training on the Bachelor's Degree Programme of Nursing in the Capital Region of Denmark



KØBENHAVNS
PROFESSIONS
HØJSKOLE

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INTRODUCTION

The *Logbook for Dispensing Medicine* for nursing students in the Capital Region is a study and documentation tool designed to support the acquisition of competencies in dispensing medicine throughout the study programme, during both clinical and theoretical training. The logbook was revised in August 2019 and applies to the 2016 and 2019 curricula.

In this document, the concept of *dispensing medicine* is synonymous with *medicine handling*, as per the Danish Health Data Protection Agency Term Base (Health Data Protection Agency, 2019).

The *Logbook for Dispensing Medicine* was devised to counteract the danger to patient safety posed by medication errors. Medication errors are defined in several ways. The European definition is: “A medication error is an unintended failure in the drug treatment process that leads to, or has the potential to lead to, harm to the patient” (pro.medicin, 2019).

Every year, there are many unintended events and near-misses related to dispensing medicine. In 2018, about 200,000 unintended events were reported to the Danish Patient Safety Database (DPSD) (Danish Patient Safety Authority, 2018). The most commonly reported errors are excessive dosage, failure to medicate, inadequate dosage and resulting treatment failure, as well as patient confusion about the names of medicines (pro.medicin, 2019). To avoid these errors, students focus on developing competencies in dispensing medicine right from the start of Semester 1.

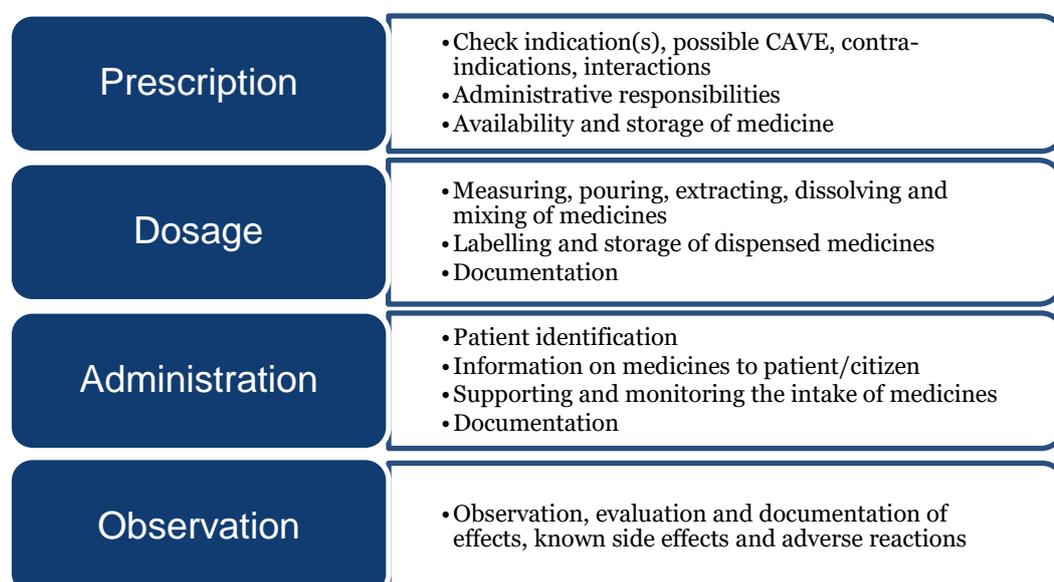
Dispensing medicine

Under supervision and with increasing levels of responsibility and competency, students are trained to dispense medicine in connection with the standard duties of nurses.

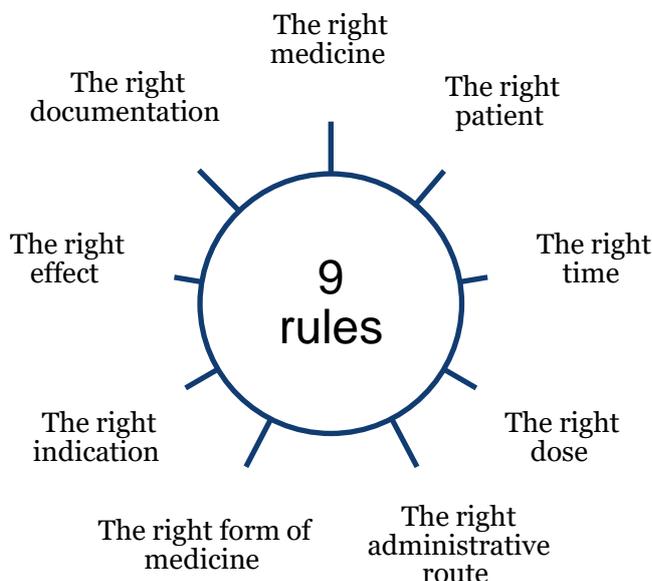
The term “dispensing medicine” covers all procedures relating to medicine after delivery from the pharmacy, including dosage, administration and storage (Danish Ministry of Health, 2015)

The process consists of four steps. The illustration below shows examples from each step (Olsen and Hallin, 2013, Danish Ministry of Health, 2015).

Throughout the entire medication process, collaboration between the patient/citizen, doctor and other healthcare professionals is key.



Unintended events may occur at several points during the four steps. To avoid unintended events, use these nine rules to improve patient safety (Elliott and Liu, 2011):



Legal guidelines

The clinical training centre's responsibilities

- Tasks related to dispensing medicine are delegated to students by the clinical supervisor/nurse. Tasks such as medicine handling, fluid therapy and blood transfusion are performed under the clinical supervisor/nurse's responsibility (Danish Ministry of Health, 2009)
- The management at the clinical training centre is responsible for the necessary guidelines and instructions for medication handling (Danish Ministry of Health, 2009)
- It is the responsibility of the clinical supervisor/nurse to ensure that students have the requisite knowledge and the necessary skills to dispense medicine correctly (Danish Ministry of Health, 2009)
- The clinical training centre must organise learning activities that give students the competency to dispense medicine in accordance with the nurse's normal duties at the clinical training centre

The students' responsibilities

- Students performing delegated tasks in connection with dispensing medicine have personal liability pursuant to the Criminal Code (Ministry of Justice, 2018)
- Dispensing medicine requires careful and conscientious work, as per the Authorisation Act (Danish Ministry of Health, 2018), as well as the requisite knowledge and skills
- Students have both a right and a duty to refuse to carry out tasks in connection with dispensing medicine if they do not consider themselves fully competent to do so (Danish Ministry of Health, 2009)
- Students may dose and administer medicines once they have acquired the requisite knowledge and skills to do so. Nursing students are not permitted to forcibly administer medication.
- Students must know and comply with the legal basis for dispensing medicine and documentation, as specified in the following ministerial orders, instructions and guidelines:
 - Danish Ministry of Health, 2018a. *Act on Authorisation of Healthcare Professionals and of Professional Healthcare Activity* (the Authorisation Act). Consolidated Act no. 731 of 08/07/2019
 - Danish Ministry of Health, 2009. *Guidelines for authorised health professionals' use of assistants (delegation of assigned clinical privileges)*. Guide no. 115 of 11.12.2009

- Danish Ministry of Health, 2015c. *Guidelines for the prescription and dispensing of medicines* Guide no. 9079 of 12.02.2015
- Danish Ministry of Health, 2013. *Guidelines for identifying patients and other protections against mix-ups in the health service.* Guide no. 9808 of 13/12/2013
- Danish Ministry of Health, 2018b. *Order on Licensed Health Care Professionals' Patient Records (record keeping, storage, disclosure, transfer, etc.) (The Record-keeping Order).* Ministerial Order no. 530 of 24/05/2018
- Danish Ministry of Health, 2015. *The Ministerial Order on the Danish Act on Coercive Measures in Psychiatry.* Consolidated Act no. 936 of 02/09/2019
- Regional and local guidelines for dispensing medicine.

General information on treatment with blood components

Treatment with blood components may only be carried out when prescribed by a doctor. The legal basis is covered in the following ministerial orders, instructions and guidelines:

- Danish Ministry of Health, 2013. *Guidelines for identifying patients and other protections against mix-ups in the health service.* Guide no. 9808 of 13/12/2013
- Danish Ministry of Health, 2015a. *Guidelines for blood transfusions.* Guide no. 9038 of 15.01.2015
- The Danish Health Authority, 2018. *National clinical guidelines for indication for blood transfusion.* Copenhagen: The Danish Health Authority
- Danish Ministry of Health, 2005. *Act on the Obtainment of Human Blood for Treatment Purposes (the Blood Supply Act).* Act no. 295 of 27/04/2005
- Regional and local guidelines for blood-transfusion procedures.

A responsible health-care professional and a controller monitor the manual configuration of the blood components immediately prior to the transfusion (Capital Region, 2018). Before they are allowed to control/manage the setup of blood components, students receive training in the transfusion of blood components and control measures in Semester 5.

National clinical guidelines for indications for transfusion of blood components (2018) a supplement to Transfusion Guidelines (Danish Ministry of Health, 2015). The national clinical guidelines contain evidence-based recommendations, where possible.

Access it here:

<https://app.magicapp.org/app#/guideline/1982>

Access to medicine/medicine rooms

Student access to medicine/medicine rooms is governed by the clinical training site's rules for trainees.

The Pharmacology Test

The Capital Region's Course Portal ([link](#)) features a two-part quiz (in Danish) called the Pharmacology Test ([link](#)), with questions about calculating dosage and general pharmacology. Part 1 covers Semesters 2–4, Part 2 covers Semesters 5–6. The Pharmacology Test helps students keep their knowledge and skills up to date.

Structure and use of the *Logbook in Dispensing Medicine*

The *Logbook in Dispensing Medicine* consists of two parts, as per the 2019 Curriculum (University College Copenhagen KP, Bornholm's School of Nursing and Health Care and The Deaconess University College, 2019):

- Part 1 covers Semesters 1–4. Part 1 must be completed and documented before students are permitted to sit the Semester 4 exam
- Part 2 covers Semesters 5 and 6. Part 2 must be completed and documented before students are permitted to sit the Semester 6 exam

For each semester, students describe:

- What they have been introduced to and trained in at the clinical training site
- What they have worked on under the guidance of the clinical lecturer/supervisor
- How they have met the study-activity requirements and the exam requirements.

As part of the study-activity and/or exam requirements, students must complete a documentation sheet for each semester. The documentation sheet focuses on patient/citizen care related to dispensing medicine, and is adapted to suit each semester.

In semesters 4, 5 and 6, the sheet refers to the observation and assessment of the patient/citizen in need of IV medication, fluid therapy and the transfusion of blood components.

Use of documentation sheets

- In collaboration with their clinical lecturer/supervisor, students choose one or more patient/citizen(s) and work with the elements of dispensing medicine described in the documentation sheet for each semester
- The students are responsible for completing the documentation sheets, which can be downloaded in Word format from the Practice Portal
- Completed documentation sheets are directly uploaded via the Practice Portal
- The documentation sheet forms the basis for the students' reflection, along with the clinical lecturer/supervisor, on dispensing medicine
- The clinical lecturer/supervisor provides feedback to be included in a revised documentation sheet. The feedback focuses on the students' progress in relation to dispensing medicine and how they can improve (Hattie and Timperley, 2015).
- The students then upload the documentation sheet again
- The clinical lecturer/supervisor approves the documentation sheet.

In Semester 1, students must upload the documentation sheet (including feedback) by the end of the third week of their clinical training.

In Semester 2 and subsequent semesters, students must upload the documentation sheet at the latest three weeks before the end of the clinical training.

The first student interview

In semesters 2, 3 and 4, students must upload their documentation sheets from previous clinical training periods as a single PDF file via the Practice Portal.

In Semester 6, they must upload the documentation sheet from Semester 5.

Students agree with their clinical lecturer/supervisor how exactly they should work with dispensing medicine, on the basis of:

- The semester's learning outcomes
- The learning opportunities at the clinical training site
- The students' knowledge of pharmacology and dispensing medicine.

Students must also agree with their clinical lecturer/supervisor how and when they will work on the documentation sheets for each semester. After the student interview, both agreements are entered in the students' personal study plan.

Reflection and study questions

The reflection and study questions (see page 28) are intended to help students complete their documentation sheets and to reflect on dispensing medicine during their clinical training.

Credits

Students who have been granted credits for a specified clinical training period do not have to complete a documentation sheet for that semester.

PART 1

Semesters 1–4

Semester 1 – Theme: Observation and assessment of the patient/citizen’s health challenges and disease correlations

In Semester 1, students apply knowledge of general pharmacology and dispensing medicine in relation to individual patient/citizen care, based on the semester description.

Students are introduced to and trained in the way in which the clinical training site dispenses medicine, including:

- Legislation and guidelines
- Patient safety and the working environment
- Pharmacology, the most commonly used medicines and how they are administered

In Semester 1, students also work on the following under the guidance of the clinical lecturer/supervisor:

- Observation of dosage and administering of medicines.

Documentation sheet

The documentation sheet for Semester 1 is included in Part 1 of the *Logbook for Dispensing Medicine*. Completing the documentation sheet is an exam requirement in Semester 4. In Semester 1, students must work with one documentation sheet:

- In collaboration with the clinical lecture/supervisor, the students must select a patient/citizen and observe the way in which their medicine is dosed and administered. It is a good idea to base this work on the data acquired during the study activity “Observation and data acquisition” (see the semester description).
- The students acquire data from the documentation sheet on the medicine administered to the patient/citizen
- They then reflect on the patient/citizen’s medicine, on the basis of their knowledge of general pharmacology and dispensing medicine.

Subsequently, the students reflect orally on the patient/citizen and receive feedback from the clinical lecturer/supervisor. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

The documentation sheet for Semester 1 includes further information about the content.

Documentation sheet – Semester 1

Theme: Observation and assessment of the patient/citizen’s health challenges and disease correlations

See the previous page for details of the study activity.

Name	Student number	Date
<p>Based on a particular patient/citizen, the students must provide a written analysis and reflection on dispensing medicine. The written analysis must be max. 4,800 characters (incl. spaces). The students must complete and upload one documentation sheet during Semester 1.</p>		
<p>Description of a patient/citizen’s situation Short presentation of the patient/citizen and their current illness.</p>		
<p>The patient/citizen’s current medicine Students observe the dosing and administering of medication for the patient/citizen.</p> <p>They introduce themselves to the patient/citizen and explain that they are first semester nursing students.</p> <p>They then ask for permission to ask questions regarding the patient/citizen’s medicine:</p> <ul style="list-style-type: none"> ▪ What medicine are you receiving? ▪ Why are you receiving the medicine? ▪ How do you take your medicine? ▪ Who usually pours/administers your medicine? ▪ How do you store your medicine? 		
<p>Reflection on dispensing medicine to the selected patient/citizen</p> <ul style="list-style-type: none"> ▪ Which considerations regarding dispensing medicine arise from the patient/citizen’s answers? <p>The answer should incorporate theoretical knowledge of general pharmacology and dispensing medicine.</p>		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester’s learning outcomes.</p>		
<p>This documentation sheet is included in Part 1 of the <i>Logbook for Dispensing Medicine</i> and forms part of the exam requirements for Semester 4. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.</p>		

Semester 2 – Theme: Clinical decision-making in stable and complex care and treatment

In Semester 2, students apply knowledge of general pharmacology and dispensing medicine in relation to the individual patient/citizen care and incorporate their knowledge into argumentation in favour of nursing interventions based on the semester description.

Students are introduced to and trained in the way in which the clinical training site dispenses medicine, including:

- Legislation and guidelines
- Patient safety and the working environment
- Pharmacology, the most commonly used medicines and how they are administered.

In Semester 2, students work with the following under the guidance of their clinical lecturer/supervisor:

- Identification of the patient/citizen
- Searching for information regarding the effects and side effects of medicines
- Dosing, dispensing and administering various forms of medicine relevant to the clinical training site and the selected patient/citizen
- Documentation of relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology
- Working with the patient/citizen on administering medicine
- In the event of medication errors, reacting accordingly and demonstrating awareness of the correct procedure
- In the event of CAVE, react and show awareness of options
- Taking into account the patient/citizen's perspective when dispensing medicine.

Documentation sheet

The documentation sheet from Semester 2 is included in Part 1 of the *Logbook for Dispensing Medicine*. Completing the documentation sheet is an exam requirement in Semester 4. In Semester 2, students must work with two documentation sheets and follow two different patients/citizens.

- In collaboration with their clinical lecturer/supervisor, students select a patient/citizen, and dose and administer medicine under supervision. It is a good idea to base one of the documentation sheets on the data acquired under the exam requirement "Data acquisition, synopsis, reflection and dispensing medicine" (see the semester description).
- Students select and account for 2–3 items in the patient/citizen's medication and analyse them in relation to indication, effects, side effects and possible CAVE on the basis of the patient/citizen's situation
- Students reflect on clinical decision-making in relation to dispensing medicine, with a particular focus on the administering of medicines. See "Reflection and study questions" (page 28).

Subsequently, the students reflect orally on the patient/citizen and receive feedback from the clinical lecturer/supervisor. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

The documentation sheet for Semester 2 contains more information about the content.

Documentation sheet – Semester 2

Theme: Clinical decision-making in stable and complex care and treatment

See the previous page for details of the study activity.

Name	Student number	Date
<p>Based on a particular patient/citizen, the students must provide a written analysis and reflection on dispensing medicine. The written analysis must be max. 4,800 characters (incl. spaces). The students must prepare and upload two documentation sheets in Semester 2. Each documentation sheet must be based on a different patient/citizen.</p>		
<p>Description of the patient/citizen’s situation Short presentation of the patient/citizen and their current illness.</p>		
<p>The patient/citizen’s current medicine Under supervision, the students must dose and administer medicine and observe the patient/citizen in relation to dispensing medicine. Based on the patient/citizen’s total medication, the students select and explain 2–3 medicines. Based on the patient/citizen’s current situation, the students analyse the medicines’ indication, effects, side effects and possible CAVE.</p>		
<p>Reflection on dispensing medicine to the selected patient/citizen Students reflect on the clinical decision-making related to dispensing medicine, based on the semester’s sub-themes, with a focus on: ▪ Administering medicines</p>		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester’s learning outcomes.</p>		
<p>This documentation sheet is included in Part 1 of the <i>Logbook for Dispensing Medicine</i> and forms part of the exam requirements for Semester 4. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.</p>		

Semester 3 – Theme: Situation-specific communication in interaction with patients and citizens, relatives and professionals in and across sectors

In Semester 3, students apply knowledge of pharmacology and dispensing medicine, and reflect on and dispense medicine under supervision, based on the semester description.

Students are introduced to and trained in the way in which the clinical training site dispenses medicine, including:

- Legislation and guidelines
- Patient safety and the working environment
- Pharmacology and the most widely used medicines, as well as administering medicines, including parenteral medicines (SC, IM, IV and fluid therapy).

In Semester 3, students will work with the following under the guidance of the clinical lecturer/supervisor:

- Identification of the patient/citizen
- Searching for information regarding the effects of medicines, adverse reactions and interactions, as well as any mixing procedures for IV medication
- Dosing, dispensing and administering various forms of medicine relevant to the clinical training site and the selected patient/citizen
- Documentation of relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology,
- Information, guidance, instruction and communication with patients/citizens in relation to medicines
- Working with the patient/citizen on administering medicine
- In the event of medication errors, reacting accordingly and demonstrating awareness of the correct procedure
- In the event of CAVE, reacting accordingly and demonstrating awareness of options
- Responding to prescriptions that exceed the recommended dosage, with CAVE or contraindications, and demonstrating knowledge of options
- Taking into account the patient/citizen's perspective when dispensing medicine.

Documentation sheet

The documentation sheet from Semester 3 is included in Part 1 of the *Logbook for Dispensing Medicine*. The work on the documentation sheet is an exam requirement in Semester 4. During Semester 3, students must work with two documentation sheets, based on two different patients/citizens.

- In collaboration with their clinical lecturer/supervisor, students select a patient/citizen and dose and administer medicine under supervision.
- Students select and account for 2–3 items in the patient/citizen's medication and analyse them in relation to indication, effects, side effects and possible CAVE, on the basis of the patient/citizen's situation – preferably with focus on a psychiatric context. These must be medicines that the students have not previously worked with on the documentation sheets in Semesters 1 and 2.
- The students must reflect on clinical decision-making and clinical management in relation to dispensing medicine, with a particular focus on health-pedagogical considerations and legal and ethical dilemmas. See "Reflection and study questions" (page 28).

Subsequently, the students reflect orally on the patient/citizen and receive feedback from the clinical lecturer/supervisor. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

The documentation sheet for Semester 3 contains more information about the content.

Documentation sheet – Semester 3

Theme: Situation-specific communication in interaction with patients/citizens, relatives and professionals in and across sectors

See the previous page for details of the study activity.

Name	Student number	Date
<p>Based on a particular patient/citizen, the students must provide a written analysis and reflection on dispensing medicine. The written extent must be max 7,200 characters (incl. spaces). Students must complete and upload two documentation sheets in Semester 3. Each documentation sheet must be based on a different patient/citizen.</p>		
<p>Description of the patient/citizen’s situation Short presentation of the patient/citizen and their current illness, taking into account the patient/citizen’s perspective on their personal lifestyle.</p>		
<p>The patient/citizen’s current medicine Students dose and administer medicine and observe the patient/citizen in relation to dispensing medicine. Based on patient/citizen’s total medication, the students select and explain 2–3 medicines that have not previously been described. Based on the patient/citizen’s current situation, the students analyse the medicines’ indications, effects, side effects and possible CAVE – if possible, focusing on a psychiatric nursing context.</p>		
<p>Reflection on dispensing medicine to the selected patient/citizen The students must reflect on clinical decision-making and clinical management in relation to dispensing medicine, based on the semester’s sub-themes and with a focus:</p> <ul style="list-style-type: none"> ▪ Health-pedagogy considerations ▪ Legal and ethical dilemmas 		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester’s learning outcomes.</p>		
<p>This documentation sheet is included in Part 1 of the <i>Logbook for Dispensing Medicine</i> and forms part of the exam requirements for the Semester 4. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.</p>		

Semester 4 – Theme: Clinical management of patient and citizen care (valid for spring 2020)

In Semester 4, students reflect on and apply a framework for issuing prescriptions and a framework for delegation based on the semester description.

Students are introduced to and trained in the clinical training site's approach to dispensing medicine, including:

- Legislation and guidelines, including a framework for delegation
- Patient safety and the working environment
- Pharmacology, the most commonly used medicines and ways of administering them
- Intravenous administration and basic fluid therapy, if this falls within the nurse's normal duties at the clinical training site.

In Semester 4, students work with the following under the guidance of their clinical lecturer/supervisor:

- Identification of the patient/citizen
- Searching for information regarding the effects of medicines, adverse reactions and interactions, as well as mixing procedures for IV medication
- Dosing, dispensing and administering various forms of medicine relevant to the clinical training site and the selected patient/citizen
- Documentation of relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology
- Information, guidance, instruction and communication with patients/citizens in relation to medicines
- Working with the patient/citizen on administering medicine
- Helping to assess the need for PRN medicine
- In the event of medication errors, reacting accordingly and demonstrating awareness of the correct procedure
- In the event of CAVE, reacting accordingly and demonstrating awareness of options
- Responding to prescriptions that exceed recommended dosage, with CAVE or contraindications, and demonstrating knowledge of options
- Taking into account the patient/citizen's perspective when dispensing medicine.

Exam requirements

By the end of Semester 4, students must have completed and documented Part 1 of the *Logbook for Dispensing Medicine* in order to sit the Semester 4 exam.

Approval of the exam requirement for Semester 4 comprises:

- Approved documentation sheet for Semester 1, uploaded via the Practice Portal prior to first student interview. This does not apply to students who have credits for the clinical training period.
- Approved documentation sheet for Semester 2, uploaded via the Practice Portal prior to first student interview. This does not apply to students who have credits for the clinical training period.
- Approved documentation sheet for Semester 3, uploaded via the Practice Portal prior to first student interview. This does not apply to students who have credits for the clinical training period.
- Approved documentation sheet for Semester 4 (see below)
- Clinical decision making and clinical management related to dispensing medicine for a specific patient/citizen (see below).

Documentation sheet

The documentation sheet for Semester 4 is included in Part 1 of the *Logbook for Dispensing Medicine*.

Being written at the moment.

Semesters 4, 5 and/or 6 – Observation and assessment of the patient/citizen in need of IV medication, fluid therapy and transfusion of blood components

In semesters 4, 5 and/or 6, students assume co-responsibility for and master IV medication, fluid therapy, epidural medicine and the transfusion of blood components, to the extent that these are part of the nurse's normal duties at the clinical training site.

Students are introduced to and trained in the clinical training site's approach to dispensing medicine, including:

- Legislation and guidelines, including a framework for delegation
- Patient safety and the working environment
- Pharmacology and the most widely used drugs and medicines, including IV medication and fluid therapy
- Intravenous administration and basic fluid therapy, where relevant
- Updating of theoretical teaching about the transfusion of blood components and control measures
- Risk situation medicine (Danish: *risikosituationslægemidler*) including antidiabetics, anticoagulants, low-dose methotrexate, potassium, opioids, gentamicin and digoxin
- Calculating dosage and dispensing medicine with a view toward, e.g. increasing and reducing medication, PRN medication, infusion rates, dilutions, dosage by weight and/or body area.

Under the guidance of the clinical lecturer/supervisor, students work on the following:

- Identification of the patient/citizen
- Searching for information regarding the effects of medicines, side-effects, interactions and any contra-indications, as well as mixing procedures for IV medication
- A critical approach to the patient's medication as a whole and their current situation
- Dosing, dispensing and administering various forms of medicine relevant to the clinical training site and the selected patient/citizen
- Documentation of relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology
- Information, guidance, instruction and communication with patients/citizens (and relatives, where appropriate) in relation to medicines
- Working with the patient/citizen on administering medicine
- Acting in an ethical and responsible manner with due regard to the individual patient/citizen
- In the event of medication errors, reacting accordingly and demonstrating awareness of the correct procedure
- In the event of CAVE, reacting accordingly and demonstrating awareness of options
- Responding to prescriptions that exceed recommended dosage, with CAVE or contraindications, and demonstrating knowledge of options
- Taking into account the patient/citizen's perspective when dispensing medicine.

For infusions, intravenous or epidurals, the following applies

The clinical supervisor/nurse must check the infusion fluid and ensure that the student is capable of performing the procedure correctly – this applies to dispensing medicine in general.

For the direct transfusion of blood components, the following applies

If the nurse's normal duties at the clinical training site include the transfusion of blood products, then – provided that the students have received the necessary theoretical instruction and practical training – they may participate in nursing routines related to transfusions.

The clinical supervisor/nurse is responsible for ensuring that procedures are performed correctly and are adequately supervised and monitored.

Documentation sheet

The documentation sheet related to IV medication, fluid therapy and transfusion of blood components replaces one of the documentation sheets that students must otherwise complete in semesters 4, 5 and/or 6.

Documentation sheet IV – Semesters 4, 5 and/or 6
Observation and assessment of the patient/citizen in need of IV medication, fluid therapy and transfusion of blood components

See the previous page for details of the study activity.

Name	Student number	Date
<p>Based on a patient/citizen, the students must provide a written analysis and reflection on IV medication, fluid therapy and transfusion of blood components The written analysis must be max. 9,600 characters (incl. spaces). The students must prepare and upload two documentation sheets in semesters 4, 5 and/or 6.</p>		
<p>Describe the patient/citizen situation, focusing on the need for IV medication, fluid therapy and/or transfusion of blood components</p>		
<p>Account for nursing observations of the patient/citizen in relation to their situation, the form of the dosing, the medicine’s indication, effects, side effects, patient safety, and the framework for delegation – including reactions in the event of complications</p>		
<p>Reflection on dispensing medicine for the selected patient/citizen The students must reflect on clinical decision-making and clinical management in relation to IV therapy and blood components, based on the semester's learning outcomes and with a particular focus on:</p> <ul style="list-style-type: none"> ▪ Patient safety ▪ Framework for delegation ▪ The nurse’s responsibility for IV therapy and blood components ▪ The students’ responsibility for IV therapy and blood components ▪ Ethical and legal dilemmas ▪ Calculating dosage 		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester’s learning outcomes.</p>		

This documentation sheet must be included in Part 1 (Semester 4) or Part 2 (semesters 5 and 6) of the *Logbook for Dispensing Medicine*. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

PART 2

Semesters 5–6

Semester 5 – Theme: Acute and critical nursing care and treatment in interaction with citizens, patients and relatives

In Semester 5, the students assume joint responsibility for and master dispensing medicine. Within a framework for delegation, the students also prescribe medication based on the semester description.

Students are introduced to and trained in the way in which the clinical training site dispenses medicine, including:

- Legislation and guidelines, including a framework for delegation
- Patient safety and the working environment
- Pharmacology, the most commonly used preparations and forms of administering them, including IV and fluid therapy
- Intravenous administration and basic fluid therapy, if this falls within the nurse's normal duties at the clinical training site
- Risk-situation medicine
- Calculating dosage and dispensing medicine, with a view toward, e.g. increasing and reducing medication, PRN medication, infusion rates, dilutions, dosage by weight and/or body area.

In Semester 5, students work with the following under the guidance of their clinical lecturer/supervisor:

- Identification of the patient/citizen
- Searching for information regarding the effects of medicines, side-effects, interactions and any contraindications, as well as mixing procedures for IV medication
- A critical approach to the patient's medication as a whole, including in the acute or potentially acute situation
- Dosing, dispensing and administering various forms of medicine relevant to the clinical training site and the selected patient/citizen
- Documentation of relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology
- Information, guidance, instruction and communication with patients/citizens and relatives (where appropriate) in relation to medicines
- Working with the patient/citizen on administering medicine
- Acting in an ethical and responsible manner with due regard to the individual patient/citizen
- In the event of medication errors, reacting accordingly and demonstrating awareness of the correct procedure
- In the event of CAVE, reacting accordingly and demonstrating awareness of options
- Responding to prescriptions that exceed the recommended dosage, with CAVE or contraindications, and demonstrating knowledge of options
- Taking into account the patient/citizen's perspective when dispensing medicine.

Documentation sheet

The documentation sheet for Semester 5 is included in Part 2 of the *Logbook for Dispensing Medicine*. Completing the documentation sheet is an exam requirement in Semester 6. In Semester 5, students must work with one documentation sheet:

- In collaboration with their clinical lecturer/supervisor, students choose a patient/citizen, and dose and administer medicine under supervision.
- Students must account for the patient/citizen's overall medication with a focus on items related to acute and critical illness. Students analyse the medicine's indication, effects, side effects, interactions and possible CAVE in the context of the patient/citizen's situation

- Students reflect on clinical decision-making and clinical management in relation to the handling of medicine, with a particular focus on patient safety, risk situation medicines and the delegation framework, as well as ethical and legal dilemmas. See “Reflection and study questions” (page 28).

Subsequently, the students reflect orally on the patient/citizen and receive feedback from the clinical lecturer/supervisor. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

For more information about the content, see the documentation sheet for Semester 5.

If students take joint responsibility for and master IV medication, fluid therapy, epidural medicine and transfusion of blood components, they must use the documentation sheet on page 20 and refer to the accompanying description on page 18.

Documentation sheet – Semester 5

Theme: Acute and critical nursing care and treatment in interaction with citizens, patients and relatives

See previous pages for detailed description of student activity.

Name	Student number	Date
<p>Based on a particular patient/citizen, the students must provide a written analysis and reflection on dispensing medicine. The written extent must be max 9,600 characters (incl. spaces). The students must prepare and upload one documentation sheet in Semester 5.</p>		
<p>Description of a patient/citizen situation with a focus on acute and critical illness Students must briefly describe the patient/citizen and their current illness.</p>		
<p>The patient/citizen's current medicine Students dose and administer medicine and observe the patient/citizen in relation to dispensing medicine.</p> <p>The students must account for the patient/citizen's overall medication, with a focus on items related to acute and critical illness.</p> <p>The students analyse the selected medicines' indication, effects, side effects, possible contra-indications and CAVE, in the context of the patient/citizen's overall medication and current situation.</p>		
<p>Reflection on dispensing medicine for the selected patient/citizen The students must reflect on clinical decision-making and clinical management in relation to dispensing medicine, based on the semester sub-themes and focusing on:</p> <ul style="list-style-type: none"> ▪ Patient safety ▪ Risk-situation medicine ▪ Framework for delegation ▪ Ethical and legal dilemmas ▪ Calculating dosage 		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester's learning outcomes.</p>		

This documentation sheet is included in Part 2 of the *Logbook for Dispensing Medicine* and forms part of the exam requirements for Semester 6. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

Semester 6 – Theme: Independent nursing practice

Semester 6 is aimed at providing independent clinical decision-making and clinical management in stable, acute and/or complex care and treatment. During Semester 6, the students must be able to critically assess and dispense medicine, and also prescribe medicine within a framework of delegation.

Students are introduced to and trained in the way in which the clinical training site dispenses medicine, including:

- Legislation and guidelines, including a framework for delegation
- Patient safety and the working environment
- Pharmacology, the most commonly used preparations and forms of administering them, including IV and fluid therapy
- Intravenous administration and basic fluid therapy, if this falls within the nurse's normal duties at the clinical training site
- Risk-situation medicine
- Calculating dosage and dispensing medicine, with a view toward, e.g. increasing and reducing medication, PRN, medication, infusion rates, dilutions, dosage by weight and/or body area
- Taking into account the patient/citizen's perspective when dispensing medicine.

Exam requirements

At the end of Semester 6, the students must have completed and documented Part 2 of the *Logbook for Dispensing Medicine* before they are permitted to sit the Semester 6 exam.

Approval of the exam requirement for Semester 6 comprises:

- Approved documentation sheet for Semester 5, uploaded via the Practice Portal prior to the first student interview
- Approved documentation sheet for Semester 6 (see below)
- Clinical decision-making and clinical management related to dispensing medicine to a group of specific patients/citizens, see below.

Documentation sheet

In Semester 6, students must work on two documentation sheets from two different patients/citizens.

- In collaboration with their clinical lecturer/supervisor, students select a patient/citizen, and dose and administer medicine under supervision.
- Students account for the patient/citizen's overall medication, and analyse the medicines in relation to their indication, effects, side effects and possible cave, based of the patient/citizen's situation
- The students must reflect on clinical decision-making and clinical management in relation to dispensing medicine, with a particular focus on administering medicines, health-pedagogical considerations, ethical and legal dilemmas, as well as patient safety and the working environment. Each of the two documentation sheets must have a different focus. See "Reflection and study questions" (page 28).

Subsequently, the students reflect orally on the patient/citizen and receive feedback from the clinical lecturer/supervisor. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.

The documentation sheet for Semester 6 contains more information about the content.

If students assume co-responsibility for and master IV medication, fluid therapy, epidural medicine and transfusion of blood components, they must use the documentation sheet on page 20, and refer to the accompanying description on page 18.

Clinical decision-making and clinical management related to dispensing medicines to one or more specific patient(s)/citizen(s)

At least once during Semester 6, students must assume responsibility for clinical decision-making and clinical management in relation to a specific medicine-dispensing situation.

In collaboration with their clinical lecturer/supervisor, they select one or more patient(s)/citizen(s) with varying complexity in their medication, and must demonstrate under supervision that they have mastered dispensing medicines in accordance with current legislation, guidelines and instructions.

Students must show that they can:

- Identify the patient(s)/citizen(s)
- Search for information regarding the effects of medicines, side-effects, interactions and any contra-indications, as well as mixing procedures for IV medication
- Adopt a critical approach to the medication as a whole
- Dose, dispense and administer various forms of medicine relevant to the clinical training site and the selected patient(s)/citizen(s), including calculating dosage
- Document relevant information related to administering medicine in the clinical training site's electronic documentation and registration system, using the correct terminology
- Engage, inform, instruct, teach and communicate with patient(s)/citizen(s) and any relatives about medicines
- Work with the patient(s)/citizen(s) and any relatives on administering medicine
- Act in an ethical and responsible manner with due regard to the individual patient(s)/citizen(s)
- In the event of medication errors, react accordingly and demonstrate awareness of the correct procedure
- Respond to prescriptions that exceed the recommended dosage, with CAVE or contraindications, and demonstrate knowledge of options.

Subsequently, the students discuss the medicine-dispensing process with the clinical lecturer/supervisor, and:

- Explain the pharmacology and link their pharmacological knowledge to the selected patient(s)/citizen(s)' physiology/pathophysiology
- Explain the effects, side effects, interactions and contraindications of the medicines used
- Describe the contents of the relevant legal guidelines
- Account for their own areas of responsibility as nursing students in relation to dispensing medicines
- Reflect on the involvement of and collaboration with the patient(s)/citizen(s) and inter-professional partners on dispensing medicine, including educational and communication considerations
- Reflect on the ethical and legal dilemmas of dispensing medicine
- Reflect on prescriptions that exceed the recommended dosage, with CAVE or contraindications, and demonstrate awareness of options.

Students receive feedback from their clinical lecturer/supervisor.

The clinical lecturer/supervisor approves completion of the exam requirements via the Practice Portal.

Documentation sheet – Semester 6
Theme: Independent nursing practice

See previous pages for detailed description of student activity.

Name	Student number	Date
<p>Based on a particular patient/citizen, the students must provide a written analysis and reflection on dispensing medicine. The written analysis must be max. 9,600 characters, incl. spaces. The students must prepare and upload two documentation sheets in Semester 6. Each documentation sheet must be based on a different patient/citizen.</p>		
<p>Description of the patient/citizen’s situation Short presentation of the patient/citizen and their current illness.</p>		
<p>The patient/citizen’s current medicine Students dose and administer medicine and observe the patient/citizen in relation to dispensing medicine. Students must account for the patient/citizen’s medication as a whole. The students analyse selected medicines’ indication, effects, side effects, interaction, possible contra-indications and CAVE, in the context of the patient/citizen’s overall medication and current situation.</p>		
<p>Reflection on dispensing medicine to the selected patient/citizen The students must reflect on clinical decision-making and clinical management in relation to dispensing medicine, based on the semester’s sub-themes and focusing on:</p> <ul style="list-style-type: none"> ▪ Administering medicines ▪ Risk-situation medicine ▪ Health-pedagogy considerations ▪ Ethical and legal dilemmas ▪ Patient safety ▪ Work environment 		
<p>Literature</p>		
<p>Feedback Students must note the feedback from their clinical lecturer/supervisor on the basis of the semester’s learning outcomes.</p>		
<p>This documentation sheet is included in Part 2 of the <i>Logbook for Dispensing Medicine</i> and forms part of the exam requirements for Semester 6. Once the whole documentation sheet has been completed and uploaded, the clinical lecturer/supervisor approves the submission on the Practice Portal.</p>		

REFLECTION AND STUDY QUESTIONS

The reflection and study questions related to dispensing medicine will help students to work on their documentation sheets and to reflect on dispensing medicine during their clinical training.

Administering medicines

Administering route

- Considerations and reasons for choosing this route – both in general and specifically, for an individual patient/citizen
- When the medicine is prescribed, the students must take into account how it will benefit the patient/citizen, how it is best absorbed and how it works optimally – for example, whether the patient/citizen has problems with intestinal absorption or cannot take medicine orally.

Pharmacokinetics and pharmacodynamics

- Where and how is the medication ingested, how does it work and how is it secreted?
- Local and/or systemic effect?

Prescribing, dosing and administering

- Considerations with respect to prescription (e.g. indication, dosage)
- Considerations with respect to dosing (e.g. can tablets be crushed, can capsules be opened, can tablets be halved, must tablets or capsules be swallowed whole, how and in what receptacle should powder from a vial be mixed, how should concentrate be diluted, etc.?)
- Considerations with respect to administering (e.g. time of administering the medicine in relation to other medicines and food, instructions for proper administering, etc.)
- Planning, including safety, space, peace and quiet

Effects, side effects and interactions

- What observations for effects, side effects and possible interactions should be carried out and how?
- Documentation and passing on of information to colleagues and partners

Ordering, receipt and storage of medicines

- What guidelines are available for ordering, receiving, storing and disposing of the medicine concerned?

Nursing considerations

- The patient/citizen's general condition including allergies and symptoms
- The patient/citizen's preferences, needs, knowledge and understanding, etc.
- Information material for the patient/citizen and their relatives

Documentation

How is the medication process documented?

Patient safety and the working environment

Secure communication

- What is secure communication, and why is it important?
- What tools are used ?
- In what situations is it necessary to use secure communication?

Unintended events

- What is an UE in relation to dispensing medicine?
- How and why should it be reported?
- What is the social relevance of the reporting obligations?
- What might be the significance for the patient/citizen of the reporting of UE?
- Where is reported UE data found?
- How is UE data used (at site, local authority, regional authority and national levels)?
- What is the structure of the local safety organisation? Who can students contact if, for example, they prick themselves on a syringe needle?
- How do students draw attention to errors and near-misses?

Safety risks

- What guidelines are in place regarding safety risks (at site, local authority, regional authority and national levels)?
- How do students comply with these guidelines?
- How do students protect themselves and their colleagues in connection with dispensing medicine (e.g. protective equipment, hygiene, quiet zones, fume cupboards, needle handling, etc.)?
- What is the correct procedure for disposing of medicine on site?

Risk-situation medicine

Risk situation medicine (Danish: *risikosituationslægemidler*) includes antidiabetics, anticoagulants, low-dose methotrexate, potassium, opioids, gentamicin and digoxin

- Which of these medicines can be dispensed on site?

Health-pedagogy aspects

Health pedagogy

- How do students plan interventions on the basis of health-pedagogy theories and concepts?
- What opportunities and barriers do they see in relation to initiating and contributing to innovation?
- When evaluating the patient/citizen and their relatives' need for new knowledge about dispensing medicine, how do students incorporate knowledge about mastering strategies, lifestyle, living conditions, insight into illness, empowerment, recovery or motivational dialogue?

Didactics

- What do the patient/citizen and their relatives need to learn?
- How will they learn and how should they be taught?
- What basis do the patient/citizen and their relatives have for learning? How will the students make use of this?
- What basis do the students have for taking charge of the conversation/supervision/learning?
- What factors might promote or inhibit the patient/citizen and their relative's learning?
- What is the aim of the conversation, guidance or instructions?
- What is the content, and which method(s) will be used to convey it?
- How will students evaluate the process? What has been learned?

Ethical and legal dilemmas

Ethical and legal dilemmas

- The treatment indication – how much is permissible/not permissible?
- Euthanasia – what do the students think about it?
- Working with relatives – do they require a different level of care?
- Self-medicating – using the patient/citizen's own medicine
- Natural medicine – what do the students think about it?
- Care versus neglect
- Working with colleagues on prescriptions, e.g. different ways to be responsible for dispensing medicine
- Are there non-pharmacological nursing interventions that could supplement the pharmacological treatment?

Coercion/force

- What is the students' role in relation to forced medication?
- In what situations can force be used?
- What are student nurses allowed to do?

LITERATURE