

Manual

„How to IPTW“

**Interprofessional Training Wards -
concept, initiation, implementation**



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A Day on an IPTW

An interprofessional team ("IPTW team") of nursing trainees and medical students in their final year takes over "their" patients from the night shift. Over a period of several weeks they will now be working together in teams of two, one student and one trainee. Each team is responsible for the care and supervision of a certain number of patients on this ward. All team members are close to finalizing their education and have now the opportunity to put their knowledge into practice. They should work together as an independent interprofessional unit. In the background, at least one experienced specialist from each participating profession is available at all times as a learning facilitator.

Over the course of the day, on one such interprofessional training ward both mono- and interprofessional work is done. The nursing trainees measure the patients' vital parameters and blood sugar levels during morning rounds, take care of necessary infusions and help the patients with personal hygiene. Meanwhile, the medical students are planning their rounds and are preparing for possible new admissions.

This is followed by an interprofessional ward round with all participants of the team, including the learning facilitators, which, however, keep in the background. The patient talks and a subsequent follow-up meeting in which the further preliminary go together for each patient will be determined by the stu- students and trainees guided. Take the learners give an advisory role Tips and improve if this is brings and is necessary.

Through this Close cooperation creates an atmosphere conducive to learning for the students and trainees: They have the opportunity to receive direct feedback at any time, for example on how they deal with patients and thus continuously expand their knowledge and skills.

After completing the ward round, the students and trainees take care of the previously discussed tasks. In some cases, practical clinical activities, such as



figure 1: interprofessional team at the preliminary discussion of the ward round

inserting a urinary catheter, are also carried out jointly in an interprofessional team. In this way, students and trainees at IPTW not only learn with each other, but also from each other. In the further course of the morning, the nursing trainees take care of tasks such as changing bandages, storage, meals and insulin applications. The medical students take on tasks such as taking blood, registering for examinations, creating a therapy plan and writing doctor's letters. New patient admissions and discharges always take place in an interprofessional setting.

Before the early shift ends, there is an overlap with the late shift, which begins with a short team meeting together with learning facilitators. These meetings offer a space for reflexion of daily cooperation as well as for discussions regarding solutions of problems that have arisen. Furthermore, individual patient cases will be examined more closely and explained in short lectures so that the trainees may acquire a wider range of skills.

Finally, an interprofessional handover to the IPTW teams of the late shift takes place. They will now spend the rest of the day taking care of the patients.



figure 2: Interprofessional meeting of the teams under supervision by the learning facilitator

During their training period on the interprofessional training ward, trainees and students can prove that they are up to the demands of their future professions. The complete patient care and support lies in their hands. By working independently and on their own responsibility, students learn interprofessional as well as profession-specific skills. Thanks to the constant supervision by the learning facilitators, the safety of the patients is guaranteed at all

times. When in doubt, the students can also get in touch with their learning facilitators at any time. In addition, the facilitators give regular concrete and situational feedback and thus enable the students to improve daily. The protected and structured setting enables the students to identify personal learning needs and to get used to working independently. Due to intensive interprofessional cooperation, future professionals will experience the importance of this with regards to optimal patient care.

Dear Sirs and Madams,

Dear fellow students,

Dear interested parties,

we are pleased that you are interested in Interprofessional Training Wards (IPTWs)!

In the following manual, we would like to provide you with general information on the structure of an interprofessional training ward. For this purpose, we have collected the experiences of different current IPTWs and their most important common aspects. Please note, however, that each site operates under different conditions and therefore individual adjustments are mandatory. These guidelines are accordingly not intended to be a general manual to the implementation of an IPTW, but an effort to pool experiences of the existing sites - a collection of "best practice" examples, so to speak - which we compiled for you, based on our personal assessment and many conversations. So let yourself be inspired and feel encouraged to initiate the establishment of an IPTW. Through this visionary training concept, we can improve the quality of our education directly and indirectly improve patient care and safety in our healthcare system!

If you have any questions or suggestions, we will be happy to help you at any time and encourage you to contact us!

You are also welcome to share your experiences, so we can include them in this guide and thus help other interested parties.

With best regards,

Project IPSTA* of the German Medical Students' Association, ipsta@bvmd.de

* Because of the german translation of "Interprofessional Training Ward", "Interprofessionelle Ausbildungsstation", the short term for IPTW in german is IPSTA - and therefore our project is named IPSTA.

1 General Information

1.1 What is an Interprofessional Training Ward (IPTW)?

At Interprofessional Training Wards (IPTWs), students and trainees of different health care professions independently take care of patients and the ward management of real patients together in an interprofessional team under supervision of certified facilitators of all involved professions. The constant communication, common work and a targeted division of tasks increases mutual understanding for each other. In the resulting more efficient treatment processes, we see a chance to reduce the error rate and thus improve patient safety. A more pleasant working atmosphere in a team can also enhance and strengthen mental health. Assuming responsibility and dealing with uncertainty as well as a large number of other factors such as communicative and clinical-practical skills usually take a back seat to academia in our education and thus are in need to be taught in other ways.

Analogous to the IPTWs, the concept of Interprofessional Practices (IPPRAs) is emerging which has led to a strengthening of interprofessional cooperation, and should be promoted in the outpatient sector. As soon as there are more detailed information and first experience values, we will include them in the manual at hand.

1.2 Background and objectives of this manual

The German Medical Students' Association (bvmd) has long been committed to improving teaching during the final year of medical studies, in Germany the so-called "practical year" and the improvement of interprofessional cooperation.¹

¹ Bundesvertretung der Medizinstudierenden Deutschland e.V. . Positionspapier "Zukunft und Weiterentwicklung des Medizinstudiums"; 2018. Available from: <https://www.bvmd.de/unsere-arbeit/interessenvertretung/positionspapiere/Stellungnahme> "Maßnahmenvorschläge zur Änderung der Approbationsordnung für Ärztinnen und Ärzte - Abschnitt Praktisches Jahr"; 2018. Available from: <https://www.bvmd.de/wer-wir-sind/presse/stellungnahmen/>

Interprofessional training wards (IPTWs) improve both students' education and the sustainable care landscape by strengthening interprofessional cooperation and independent patient care.² Thus, the establishment of an IPTW contributes to the overarching goal of the (decisive) improvement of acquisition of skills during the practical year and thus quality of medical education as a whole.

In order to enable all final-year medical students in Germany to participate in an IPTW rotation in the future, the bvmd has launched an interprofessional project consisting of medical students as well as health management, which will support the spread of IPTWs and promotes the networking of interprofessional training wards. This manual is designed to support and encourage students, teachers and other interested parties in their endeavor to establish an IPTW. As mentioned above, this manual will draw on the experience of already existing IPTWs, so that initiators of future IPTWs will have access to important information and suggestions. To consider the constantly changing experiences of existing and new sites, this manual will be updated regularly.

1.3 Interprofessionalism in healthcare

In recent years, various studies have shown that interprofessional cooperation of healthcare workers can strengthen patient safety.³ For some years now, awareness of interprofessional educational models as approaches to solutions for health policy problems have gained support.⁴

"Professionals are not being educated in the number and kinds and with the attitudes most congruent with the needs of society" (OECD, 1977, p. 148). The Organisation for Economic Cooperation and Development (OECD) already stated in the 60's that in the emerging consumer society lifestyle, new forms of morbidity and mortality will spread, which might lead to an impairment of the economic development in various states. The increasing demand for adequate education in health care professions led to new approaches in a variety of countries. Sweden (Linköping) is the pioneer of the interprofessional training

² Ritter A, Schmidt J. "Interprofessionelle Ausbildung: Standard statt Projekt"; 2019. Available from:<https://www.aerzteblatt.de/archiv/206518/Interprofessionelle-Ausbildung-Standard-statt-Projekt>

³ Sottas B, Mentrup C, Meyer P. Interprofessional Education and Practice in Sweden. *International Journal of Health Professions* (2016), 3 (1), 3-13.

model. A conventional, process-oriented approach was transformed to an interprofessional approach, which brings the common training of students from various disciplines together. Different modules had the aim of promoting mutual exchange between the various fields of work and thus enabling students and trainees to gain a basic understanding of all important medical and social topics.⁴

Another international pioneering example is Switzerland with its interdisciplinary situated, collaborative and intergenerational learning and working in practical medical training. With the establishment of a "learn and work" group (Lern- und Arbeitsgemeinschaft, LAG) at the University Hospital of Zurich, up to four trainees of different cohorts and with different training levels are able to treat patients independently in accordance of the Cognitive Apprenticeship⁵ model under supervision of a practical instructor.⁶ At the end of their assignment, the trainees should reflect on their work process and, on the grounds of any questions and problems, should expand their expertise. Based on the structure of the "LAG" concept, the University Hospital Zurich has created a teaching concept, in which trainees are continuously learning, constantly having their professional and social skills promoted and are enabled to gain new knowledge and experiences in an interprofessional team.⁶

Recently conducted international studies have also shown significant positive effects in relation to interprofessional joint learning and working. A study by Castro et al (2019), for instance, emphasizes that through the joint cooperation of medical students,

students of social work and pharmacy students their individual skills are better developed and their competence to work in a team could be improved. A survey of patients regarding their perception of healthcare by the interprofessional team came to the conclusion that the majority of the patients surveyed were fully satisfied with their treatment and felt safe with the students.⁴

⁴ Castro et al. Tech students, Empower patients, Act collaboratively and Meet health goals: an early interprofessional clinical experience in transformed care. *Advances in Medical Education and Practice* 2019; 10; 47-53

⁵ Collins, A., Brown, J. S. & Newman, S. (1989). Cognitive Apprenticeship: Teaching the Craft of Reading, Writing, and Mathematics. In L. Resnick (Hrsg.), *Knowing, Learning, and Instruction. Essays in Honor of Robert Glaser* (S. 453-494). Hillsdale: Lawrence Erlbaum Associates Inc.

⁶ Panfil E, Küng R, Zürcher B, Key M. Die Lern- und Arbeitsgemeinschaft als Ausbildungsstation. *PANDUA* (2017), 12 (4), 257-264

In Germany, the awareness of interprofessional education has also grown increasingly in recent years. For example, the "Master Plan for Medical Studies 2020", the basis for nation-wide curriculum reforms in the upcoming decade, calls for the increased implementation and evaluation of interprofessional teaching concepts (Measure 7).⁷ So far, however, besides the first IPTWs, only a few further pilot projects have found their way into the curriculum of medical faculties.⁸

Beyond the interprofessional aspect, interprofessional training wards offer an equally high advantage for the profession-specific education in the final year of studies. The assumption of responsibility through self-responsible patient care with support from experienced doctors offers an enormous added value for all medical students in light of the graduate profile. Up until now, the competencies that students acquire during rotation on an IPTW were not at all or only rudimentary present in the practical curriculum. Often final-year medical students are not adequately prepared for their upcoming internship but rather carry out small, isolated activities (e.g. anamnesis, taking blood samples or placing venous accesses) without clinical context. It is usually not possible for students to gain confidence in their own decisions and assessments.

1.4 What has happened so far

In addition to the interprofessional training wards in Scandinavia, in April 2017 the HIPSTA (Heidelberger Interprofessionelle Ausbildungsstation) in Heidelberg became the first interprofessional training ward in the German-speaking area.

After the successful start of the HIPSTA and with the support of the Robert Bosch Foundation, several IPTWs in other German cities and in Switzerland were established: the "Mannheimer Interprofessionelle Ausbildungsstation (MIA)" in Mannheim, the "Interprofessionelle Ausbildungsstation in der Pädiatrie: Grenzen überwinden – Zusammen lernen und arbeiten (IPAPÄD)" in Freiburg and the "Züricher interprofessionelle klinische Ausbildungsstation (ZIPAS)" in Zurich.

⁷ https://www.bmbf.de/files/2017-03-31_Masterplan%20Beschlusstext.pdf

⁸ <https://www.bosch-stiftung.de/sites/default/files/documents/2018-01/Handlungshilfe%20zur%20Entwicklung%20von%20inter-professionellen%20IPTW.pdf>
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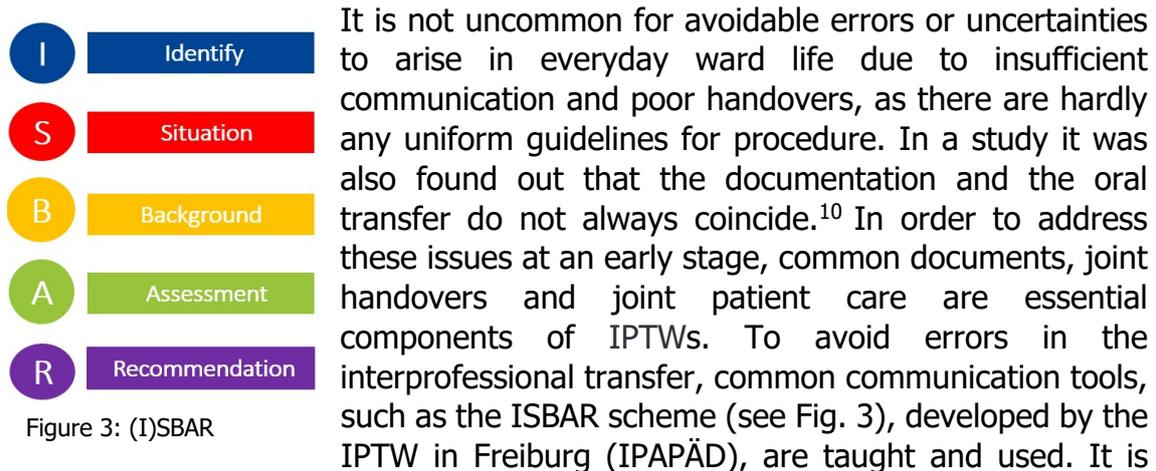
2 General conditions

2.1 Procedure, structure, legal issues

The IPTW teams work on weekdays on early and late duty, the night and weekend services are usually provided by the regular ward staff. Duty rosters are partly created by the students themselves. An exemplary schedule can look like this: Two teams work in the early shift and hand over the patients in an interprofessional handover to the two teams on late duty. Concretely, at the handover there are the trainees/students from the early and late shift and the certified learning facilitators of all involved professions. Decisions on further treatment of the patients are met by the students in a team and are discussed

⁹ Bundesärztekammer. 122. Deutscher Ärztetag Beschlussprotokoll. 2019 <https://www.aekmv.de/upload/file/presse/sonstiges/D%C3%84T%20M%C3%BCnster%20Beschlussprotokoll.pdf>

with the learning facilitator, so that any uncertainties in terms of patient safety can be clarified at an early stage.



It is not uncommon for avoidable errors or uncertainties to arise in everyday ward life due to insufficient communication and poor handovers, as there are hardly any uniform guidelines for procedure. In a study it was also found out that the documentation and the oral transfer do not always coincide.¹⁰ In order to address these issues at an early stage, common documents, joint handovers and joint patient care are essential components of IPTWs. To avoid errors in the interprofessional transfer, common communication tools, such as the ISBAR scheme (see Fig. 3), developed by the IPTW in Freiburg (IPAPÄD), are taught and used. It is precisely this correct transfer of information that is practiced on an IPTW every day and thus internalized. A rotation on an IPTW offers students and trainees the chance to practice these handovers and thus to avoid lasting handover mistakes in their further professional life.

The learning facilitators of the participating professions are either permanently present on ward or can always be called. For further details you will find information on this on the following pages under point 4.2 "Facilitators - Link between theory and practice"

The existing IPTWs in Germany are not infrastructurally separate wards, but consist of a certain number of beds within an existing ward. Usually, two to four rooms of a ward are used for the IPTW, i.e., the patients in these rooms are not accustomed by the regular staff, but are mainly taken care of by the students and trainees.

The IPTWs that have been set up till now mainly involve the medical and nursing professions; in Mannheim, Heidelberg and Bremen there is also physiotherapy included. Two to four students per profession work here in teams of two for mostly four weeks - whereby the number of students can be individually adapted. Two up to four patients are nursed by a tandem. The patients are not explicitly preselected for IPTW, and would also be regularly treated on the corresponding ward. It has been shown that even more complex cases, e.g. after abdominal

¹⁰ Schmidt, M. Anforderungen an die Pflegeübergabe im Krankenhaus. *Pflegewissenschaft* 3/42018. DOI: 10.3936/1549

tumor surgery, are thoroughly and safely treated by the IPTW teams. In any case, the patient should be informed about the special features of the IPTW at the beginning and a regular treatment in the event of non-consent should be offered. However, this has hardly been the case at existing sites - on the contrary, most patients showed interest and were very satisfied with the intensive care given by the IPTW teams.

In principle, IPTWs can be implemented on wards of any specialty. Depending on the site, there are committed people in different departments of the medical and nursing management who want to implement the IPTW, so that the specialty of the IPTW is ultimately determined by the intrinsic motivation of a particular department. At the previous sites IPTWs have been implemented in a wide range of disciplines: Pediatrics (Freiburg), General and Visceral Surgery (Heidelberg), Gastroenterology and Visceral Surgery (Nuremberg), Neonatology (Munich). Depending on organizational capabilities and availability of trainees and medical students, the IPTW can be run throughout the year or be active only during certain periods of time.

Experience has shown that legal certainty on IPTWs as well as in general involvement of the medical students in the everyday life of the ward is guaranteed. In the end, the doctor in charge, i.e. the medical learning facilitator, and the certified nurse, i.e. the nursing learning facilitator, are responsible for the treatment of the patient, even if it is mostly provided by the students and trainees of the IPTW. In Germany, this corresponds to the same legal regulations as in conventional practical year training. At this point, the legal regulations of the respective country must be considered individually. At an IPTW, the final-year medical students are taking over the role of the attending physician (apart from activities such as surgical interventions etc., which are only performed by specialists), and through the regular meetings as well as the permanent availability of the learning facilitators for consultation, possible mistakes can be prevented. Notifications of applications for technical examinations or orders of medication is done by the medical students but must be controlled and released by the responsible medical learning facilitator (see 5.1 "General framework conditions").

Summary: procedure, structur, legal issues

- IPTWs consist of several beds of a regular ward, which are nursed by interprofessional teams of students from the participating professions. An assignment usually lasts four weeks. Also complex cases can be treated on an IPTW - in any case, patients must be informed about the specifics of IPTW and their consent must be obtained.
- In principle, an IPTW can be implemented in wards of any specialty. However, permanent operation can only be guaranteed by the motivation of all participants and a sufficient number of trainees and students, which should be considered in the choice.
- The IPTW teams usually work the early and late shifts on weekdays, while the remaining night and weekend shifts are taken over by the regular staff. The students are always supported by the learning facilitators.
- The responsibility for the treatment of the patient lies, as well as in the regular course of training, with the responsible doctors, i.e. the learning facilitator. From a legal perspective, treatment of patients by students and trainees on an IPTW is innocuous.

2.2 Professions involved

In principle, the inclusion of students and trainees from all professions of patient care in the stationary environment is possible. As already mentioned, at all previous sites in Germany and internationally at least trainees in nursing and medical students are involved. In addition, at individual sites trainees of physiotherapy are involved too (e.g. Mannheim, Bremen). In the international

context, the integration of the following professions is described: occupational therapy, social work, speech therapy, dentistry and pharmacy.¹⁰

Based on the expected patient clientele of the respective discipline and ward, it may be possible to estimate early which professions can be meaningfully integrated. Here an early cooperation with the training managers of all professions involved is indispensable to agree on a common strategy and a coordination of the different curricula.

The steps described below for implementing an IPTW are based on the experience of the previous IPTWs, where mainly the medical and nursing profession is involved. From the perspective of patient safety in the increasingly complex field of drug therapy safety, the involvement of students of pharmacy in particular is reasonable.

The procedure for the establishment of an IPTW will not change significantly by the involvement of other professions, only the complexity of implementation, but at the same time the expected added value will also increase.

3 Actors involved

3.1 consent of internal responsible persons

The establishment of an IPTW requires the support of many people and institutions. For this purpose, the central actors, who must agree to the project, and the main arguments in favor of an IPTW will be named below.

Before implementing a project on a site, the site-specific conditions must be considered and an own strategy for targeted contact with the various stakeholders must be developed. The following actors are indispensable for the development of an IPTW, since only with their consent and support the project seems feasible:

¹⁰ Groessl J, Vandenhouten L. Examining Students' Attitudes and Readiness for Interprofessional Education and Practice. *Education Research International* (2019).

- Head physician of the ward and a dedicated senior/assistant physician
- care manager of the ward
- Nursing school, committed practical instructors
- Assistant physicians of the respective discipline
- Dean of local medical faculty
- Hospital management
- Works council ¹¹

For the specific outline, many other positions are elementary, which are available in different importance and are usually very site-specific. Other persons/institutions whose consent or support is required for the IPTW could include:

- Ethics Committee
- Legal department of the clinic
- Practical Year representatives
- Financial supporters, if applicable
- Press Office/ Public Relations
- Controlling†
- Medical directorate of the respective specialty - Commercial directorate of the clinic
- Directorate of Nursing
- University committees
- IT department of the clinic and nursing school
- University Computer Center

The implementation of such a new structure as the IPTW represents an enormous challenge. The implementation requires, besides a more detailed examination of didactic concepts, the commitment of those involved, a changed ward routine

¹¹ um den Stationseinsatz der Lernenden auf einer IPSTA zu genehmigen
†um die Prozesse auf der IPSTA krankenhausern zu koordinieren

and a close coordination of the common ward procedures. It is therefore imperative that all those involved in an IPTW pull together and be convinced of this project from the very beginning.

In order to gain a structured understanding of the individual planning steps of such a project and a continuous flow of reading of the manual, the main arguments in favor of an IPTW are only briefly noted at this point. A detailed explanation of all the arguments in favor to the conviction of the above-mentioned persons can be found in the annex to this manual.

1. Interprofessional communication and cooperation will be strengthened on an IPTW. The acquired skills will most likely continue to develop in professional life after completion of the training, which, in addition to a more pleasant working atmosphere, can reduce error rates and thus promote patient safety.
2. The World Health Organization (WHO) also calls for more interprofessionalism in teaching in order to promote understanding between the professions. According to the WHO, this is an important step towards a better holistic healthcare for the population.
3. An IPTW offers the students an ideal preparation for the start into everyday working life as it provides a protected framework in which the students can already take on responsibility.
4. By enabling students on an IPTW to work independently and receive direct feedback from teachers in the sense of a feedback culture, the satisfaction of the medical education during the practical year increases enormously.
5. The offer of an IPTW increases the interest and attractiveness of a site for students and at the same time the associated better training improves the recruitment of young people.

Summary: Actors involved

- Against the background of site-specific conditions, the following players are of central importance: the ward's head physician and a dedicated senior/assistant doctor, nursing service management and nursing school, committed practical instructor, lecturer of the respective Discipline, Dean of Studies, Clinical Director.
- Main arguments for an IPTW:
 1. Promotion of inter-professional cooperation already during studies
 2. The WHO defines interprofessional cooperation in the health sector as an essential feature of a sustainable supply
 3. Strengthening the assumption of responsibility and numerous also monoprofessional areas of competence
 4. Increasing satisfaction in practical training year
 5. Increased attractiveness for the site, also in terms of attracting young talent

3.2 Formation of a project group

For the concrete structure of an IPTW, it is recommended that a "project group" is set up of committed and motivated people. In the best case this group is consisting of:

- attending senior / specialist
- Station management
- supervising learning companions of the other professions
- Students
- Trainees
- Health and Nursing School

By working together in the project group with people who are part of one of the involved professions and who work on the future IPTW, the feasibility of the project is ensured. Ideally the members have additional experience in project work or knowledge of training and study modalities of the involved professions.

In most cases, the implementation of an IPTW is an additional project outside the scope of each contributor, so that cooperation often takes place out of considerable intrinsic motivation for improvements in training. Therefore, the project group is formed by committed and convinced people who ideally hold one of the above-mentioned positions. Site-dependent structures and personal acquaintances can also help decide who will participate in the establishment of the IPTW. Thinkable would also be the creation of a separate position for the development and further support of the IPTW as it is the case in Bonn for example.

When a project group has been formed and a rough concept has been developed, it is advisable to sit in on an existing IPTW. On the one hand, the feasibility and practicability of ideas and goals developed up to that point can be checked, on the other hand, existing doubts about the concept can be effectively invalidated. In most cases the added value of the project only becomes clear when experiencing the everyday life of an IPTW!

Summary: Formation of a project group

In order to divide the workload of the IPTW project and to ensure the feasibility of the project, a project group should be set up in which, ideally, employees of each profession involved are represented. After bringing together a group of motivated people it is advisable to visit an existing IPTW together.

4 Planning phase

4.1 Resource management

As mentioned above, the implementation of an IPTW requires the conviction, involvement and cooperation of many different parties in the clinic. Therefore, this project takes a lot of small alliterations, which initially can cost the initiators a lot of time and effort – but the experience so far shows that it is worth it.



Figure 4: Interprofessional team at the BIPSTA at the clinic left of the Weser, Bremen



Figure 5: HIPSTA – the first interprofessional training ward in Germany

As already mentioned, an interprofessional distribution of tasks during the planning stage is enormously important. In order to avoid working overtime due to the additional burden, a 50% position for a person in charge of each profession can be created. Ideally that person will also become the future facilitator.

Up to now, these positions have been financed with funds from the Robert-Bosch Foundation or with hospital funds. In addition, funding for clinical trials could be used. Tasks of these facilitators can include developing the daily routine at the IPTW, including learning objectives or Standard Operating Procedures (SOPs). Thus, in addition to a financial remuneration which covers the actual amount of work only to a limited extent, the responsible persons can be given time to devote themselves intensively to the implementation of the IPTW. The medical doctor in

charge should have at least a specialist qualification. In nursing, a special practical instructor qualification is recommended. The project also offers students the opportunity to bring in their ideas and visions. Thereby experience shows that the involvement of the student association adds an enormous value for the structure and educational content of the IPTW and also for the presence and recognition of the project among students. Already existing IPTWs or ones currently being established have often been actively initiated and promoted by students. Especially because students are approaching the project "without prejudice" regardless of the existing hospital structures, they often find it easier to overlook possible obstacles and to push the project forward despite possible deadlocked structures. This visionary thinking coupled with a "just do it" mentality helps keep up the motivation whilst reaching the goal. In addition, students usually have more free time than full-time project participants, so especially many of the smaller tasks in the development process can be taken over by them. In addition to voluntarily working students, a student assistant with for example a 20h/week has proven extremely helpful for the time during implementation.

In addition to their own phones/beepers the students need to be provided with their own room on the ward that will be partially restructured into an IPTW, in which they can work on their own computers with their own access to the patient management system. Depending on the situation on the ward, this room can be an empty storage room or a patient room that will be blocked for this purpose. In particular, the access to the hospital information system needs to be activated for all necessary activities of the respective profession and should be checked and activated early by the IT department.

Nevertheless, medication prescriptions or X-ray requirements have to be validated by the responsible medical doctor since they are taking legal responsibility as described above. Depending on the situation this can be done signing during the ward round or directly in the hospital information system. Here the request made by the medical students can be signed digitally by the doctors through the clinic information system. As this needs to be set up by the IT department, it should be discussed in an early stage.

The largest share of the financial investment in the development of an IPTW are personnel costs, if jobs are specifically created for IPTW. Due to different underlying wage agreements in different states and clinics the costs can vary, so the exact calculation must be made for each IPTW individually. The financial losses if a patient room on the ward is being converted into an office are also playing a role. In addition, the final costs are depending on the size of the ward,

i.e. the number of patients cared for by IPTW trainees, the available resources (personnel) and the number of professional groups involved. The effort of providing the structural and administrative requirements also determine the necessary costs. If the project group plans to visit an existing IPTW the travel expenses and the leave of absence might need to be assumed.

Once all material, personnel and other requirements for the IPTW are covered, the effort and costs are relatively stable. students now take over a part of the patient care, so that the ward personnel are exculpated. IPTWs strengthen the cross-professional cooperation and enable independent patient care in a protected environment. Next to improved training of mono-professional competences, IPTWs lead to better understanding and more effective cooperation between the professions. In the end, IPTWs can improve the overall quality of care: The students have more time for the individual patients than on a regular ward and the graduates of the IPTWs benefit extremely from their experience, learned routines and the strengthened independence especially at the beginning of their professional career.

Summary: Recourse management

- To be able to do the necessary work in the planning phase, it makes sense to have a 50% position for each profession. Ideally, this person becomes a facilitator as soon as the IPTW starts running. The employment of a student research assistant as additional support is useful, since students can take over many tasks and provide a valuable perspective on the process.
- The following recourses must be available to IPTW Students:
 - a separate room,
 - own telephone/beeper and computer
 - own access to the hospital information system, which is activated accordingly.

All this must be considered early on in the implementation process and discussed with the responsible departments (e.g. IT department).

- The biggest matter of expense in setting up an IPTW may be personal costs. There may be additional financial losses during ongoing operation due to a locked patient room (as an IPTW ward room). The costs are strongly side-specific, which is why general statements can't be made.

4.2 Facilitators – Link between theory and practice

The facilitators are representing an important interface between the conceptual level and the operational learning objectives. The special thing about the IPTW is, that the trainees and students are not only supported monoprofessionally, but that the support and feedback for all students is carried out by the facilitators of all professions. The facilitators of nursing care are mostly practical instructors. For the final decisions of the medical treatment from the patients there must be

a responsible consultant on the IPTW. The daily attendance of the students, the feedback etc. can also be taken over by a resident. A constant presence of the medical facilitator is not necessary. However, on-call service must be guaranteed. For rounds, the following discussion as well as the handover time at noon the medical facilitator is, additionally to the practical instructor, present on the ward. On the previous IPTWs, the practical instructor covers a large part of the learning support, since he constantly supports the students of both professions.

Essential for the enormous added value of the entire concept is the training of the facilitator. In order to create understanding for the tasks first of all, interprofessionalism, interprofessional teaching and the concept of IPTW has to be understood. The daily routine at the IPTW, the tasks and powers of IPTW students and the tasks of facilitators must be clearly defined. Experience has shown that nursing instructors find the role of the facilitator often easier, since their task is similar to the regular practical guidance. The passive watching, taking time and giving feedback is initially more difficult for the medical facilitator. Specific training courses for future facilitators help to provide the necessary competencies for their new role.

The aim of the facilitation is to enable students to learn and train in a self-directed way as well as empower decision-making processes and ensure patient safety.

The tasks of the facilitator therefore include:

- Supervision to guarantee patient safety
- Trainer of clinical skills
- Giving formative feedback
- Ensuring the achievement of the learning objectives
- Identification and analysis of possible conflicts



Figure 6: Interprofessional ward round, conducted by last year medical students and nursing trainees at the HIPSTA under the supervision of the senior physician and the learning facilitator

Summary: facilitators

- Each profession has its own facilitator (practical instructor in nursing; at least consultant level from the medical side). A facilitator training course prior to IPTW is recommended to learn the role of a "passive", i.e. observing facilitator and to clarify the core tasks

4.3 Internal Communication and External Effectiveness

A lively feedback with mutual understanding and clearly structured processes culture among the participants in the project group is important, to avoid hurdles at an early stage and to be able to tackle them together. Regular presence meetings or an internal mailing list can help to provide all parties involved with a regular update on the status of the project and thus ensure effective progress.

The presence of the project to the outside world (both within the hospital and beyond) should also not be neglected. E.g. by announcing the project and its progress in internal hospital communication media or through information evenings. An IPTW can only be implemented with and through the acceptance of the staff and the participation of the students and trainees, which is why their support from the start is absolutely necessary. Here it is not only important to provide information about the project, but also to arouse lasting interest and to receive support.

5 IPTW in everyday practice

5.1 Introduction day

The first day at IPTW should be designed as a comprehensive introduction day, to enable the IPTW teams to work as independently as possible from their first day on. For this it is important that the participants learn about structures and important contact persons of the IPTW as well as the house and that opportunities and limits are discussed. In the following different possible program points are mentioned:

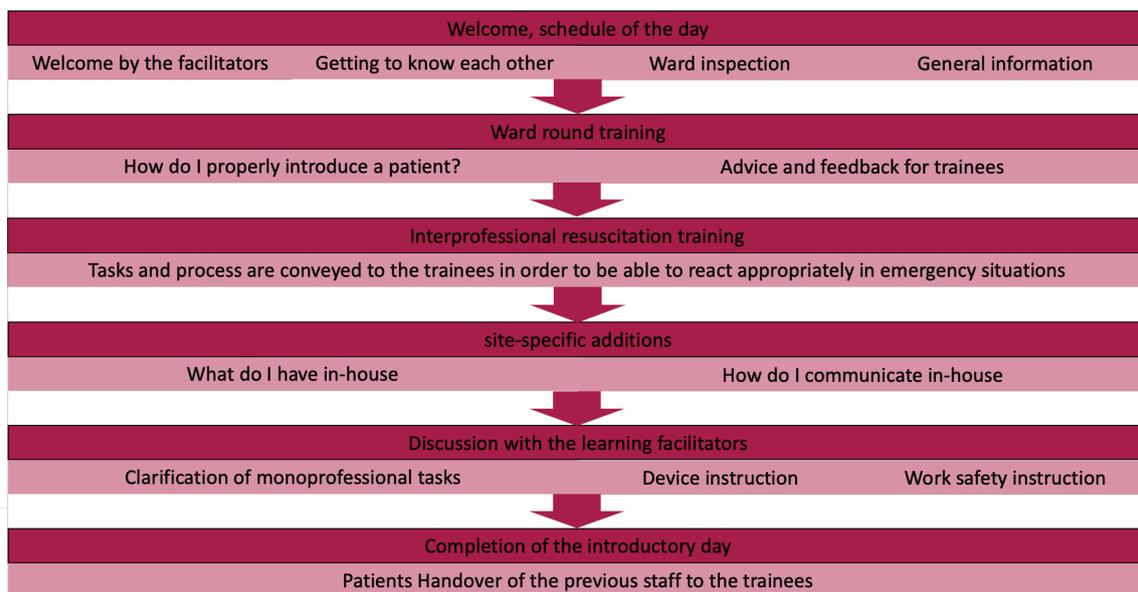


Figure 7: Possible courses of the introduction day at the IPTW

Summary: Introduction day

On the first day at the IPTW, participants must learn about the IPTW and have to discuss the possibilities and limits of the training ward. A precise description of the task, e.g. in terms of standard operating procedures, as well as an introduction to the clinical workplace system are essential. Furthermore, inter-professional resuscitation training must be carried out. At the end, the patient is handed over to the participants.

5.2 Regular feedback for participants

Essential for a continuous improvement of independence and the achievement of the learning objectives are regular feedback meetings/rounds. Therefore, both the hospital rounds as well as the handover at noon can be used. Ideally feedback is at least partly given directly after the patient interview or an activity carried out in the sense of situational feedback. In addition, regular, fixed feedback meetings, for example in weekly reflection talks, are important to reflect the general course and discussion of possible changes/improvements. Joint Discussions within the team should take place as well as individual meetings with the Students. It also makes sense to actively include the viewpoint of the other profession. Another idea, that is especially important for the cooperation in the daily ward routine, is the joint collection of challenges and problems, which are then recorded in writing e.g. on flipcharts and regularly can be re-evaluated.

Through the daily accompaniment of the case discussions by the learning facilitators, regular reflection meetings and peer feedback in the interprofessional team, the participants at the IPTW thus receive constant feedback for independent thoughts, actions and processes. Especially this intensive cooperation with each other and the intensive support with simultaneous independent work is an enormous added value in comparison to the "normal" education for last year students.

Possible contents of the feedback:

- Patient communication (anamnesis, delivering bad news, procedure of the visit etc.)

- Inter-professional communication (relevant information, frequent exchange, understanding of the work of others, recognition of competences in other professions etc.)
- documentation/doctor's letters (focusing and formulating information, writing style etc.)
- Practical activities (procedure and implementation, hygiene regulations, explanations for the patient)
- Clinical decision making (diagnostics, therapy, discharge management)

One possibility to learn from the mistakes of others or to specifically recognize the insecurities of participants in everyday working life are so-called "Critical Incident Reporting Systems" (CIRS). This is an anonymous reporting system for (near-)mistakes, which in many clinics is already available for the staff. Now such a system has been developed especially for students, who thus already recognize and communicate possible sources of error during clinical practice and their last year of education. The students then receive feedback from a specialist group which deals with the individual cases and also report them to the institutions responsible for teaching. In this way it is also possible "to create realistic training and examination content from safety-relevant events."¹²

5.3 Evaluation of an IPTW-projectes

A detailed feedback as a conclusion of the IPTW rotation from and for all participants is an important step towards ensuring and promoting a high level of training and care quality at the IPTW:

In the initial phase of the project, the previously defined learning objectives can be checked for their feasibility. The participants can use constructive feedback from the learning facilitators to explain the fulfilment of these learning objectives and aspects of their actions that need improvement. A distinction should be made between interprofessional (e.g. teamwork and communication) and profession-

¹² https://www.impp.de/files/PDF/Presseartikel/Pressemitteilung%20-%20CIRS%20f%C3%BCr%20Studierende%20der%20Medizin%20-%20IMPP_21.05.2019.pdf

specific skills. Less concrete to grasp, is the development of a more comprehensive understanding of roles, which can be achieved through the special circumstances at the IPTW. The feedback of the students to the project organization can in turn help to understand the circumstances and requirements at the IPTW to their needs. This is how the process will be made even smoother in the future. These evaluations are important to ensure that the concept has been fully implemented and can be further developed over the long term

Through a uniform, nationwide evaluation, a minimum standard of all IPTWs can be achieved, which provides a comparable training of students on all IPTWs. This allows the quality of the medical training in the area of the final year medical students or the last year of training nationwide is secured at a high level. A cross-site evaluation offers an objective and clear way to share experiences and opinions with regard to IPTWs to be documented and evaluated. Furthermore, potential sites learn from each other: What works in other Clinics and how? How can processes be optimized and learning success further increased? How do other sites cope with different implementation hurdles?

Internationally, research on the evidence and effectiveness of IPSTAs is rare. The establishment and networking of many new sites in Germany creates the possibility of multicenter studies. Statements on teaching improvement, comparability of different disciplines, size of wards, patient satisfaction, length of stay, treatment errors, etc. could (finally) be taken on the basis of this. Therefore, research on an IPTW in terms of scientific foundation is desirable in any case.

6 Summary

We hope that this guide, thanks to the wealth of information, is able to motivate and support the establishment and implementation of an IPTW. If there are still uncertainties or questions or if new ones arise, we are of course gladly at your disposal.

IPTWs enable trainees to work independently and on their own responsibility and in a team under constant feedback from experienced nursing staff and doctors. This not only makes the IPTW itself a pleasant and effective working atmosphere, but also to sustain the interprofessional communication and cooperation encouraged. In addition, such precisely coordinated cooperation promotes efficiency and patient safety, which is also guaranteed by constant supervision. The students can put together everything they have learned so far and thus optimally prepare for the state examination, but above all prepare for the start of a career. IPTWs therefore improve the quality of training enormously and adapt to the needs of modern medicine, which in the long term will lead to an improvement in the overall quality of care can be achieved.

HIPSTA television report in the Landesschau Baden-Württemberg:

www.youtube.com/watch?v=CEoG-erSKD4

7 Introducing the project

We are a group of students of human medicine, who are convinced that interprofessional training wards are an important building block for improving training in the health care professions and the care landscape.

On the initiative of the bvmd, in January 2019 a so called Taskforce was founded to establish a German wide implementation of IPTWs from the student side. In the beginning of July 2019, the taskforce was converted into a separate bvmd-project, in which our previous work is now being continued.

We have visited various events, made contacts, have come in discussion with the various actors, written emails, read publications and much more. In the context of the project "Operation Team" of the Robert Bosch Foundation a network of all IPTW initiators and interested parties was created with whom we are in close contact. We are also actively integrated in the network of the IMAGINE project of the Institute for Medical and Pharmaceutical examination questions (impp) on the subject of interprofessional teaching and IPTWs.

To present our student initiative and to make IPTWs and their concept even more present, we also make our own contributions at congresses on medical education research (GMA, AMEE) and numerous other events.

Primarily we want to encourage and enable students to get involved locally together with teachers by initiating an IPTW project on their site or getting involved in existing projects. Here we would like to support the students in the best possible way to also make contact with teachers for further development and scientific foundation.

Furthermore, an important part of our work, building on networking, is an exchange of experience to make this possible. Therefore, we have, among other things, defined the key data of all sites, e.g. number of beds, number of trainees, field of study and the contact persons of the respective professions. Since this overview will change constantly, the

Information is not attached to this manual. If you are interested to get in touch with us or with existing sites, you are therefore welcome to contact us!

Our work lives from the exchange with you!



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Acknowledgments

In conclusion, we would like to thank all existing sites for their valuable support. The information in this guide is mainly based on the experiences made in Heidelberg, Nuremberg and Bremen - therefore a huge thanks to Professor Dr André Mihaljevic (HIPSTA), Dr Stephan Kolb (NIPSTA) and Dr. Swantje Wienand (BIPSTA) in particular for the information and materials they provided to us! In addition, we would like to take this opportunity to thank André Mihaljevic, who has initiated the first IPTW in Germany, for his support of the work of the project as a whole and for his always open ear for our ideas and questions.

In addition, we would like to thank the Robert Bosch Foundation, which has supported the IPTWs from the beginning on and in particular Mrs Irina Cichon, who helped us to get in contact with the above-mentioned locations. We also want to thank the Institute for medical and pharmaceutical examination questions (impp) and here especially Prof. Dr. Jana Jünger, who has established the IMAGINE project, which involved students from the beginning on and actively support the further expansion of IPTWs.

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Annex

Argumentation for an IPTW

In the following you will find a collection of the most important arguments for IPTW:

- Strengthening inter-professional collaboration
The basis for improved cooperation between the different disciplines is interprofessional communication. Discuss at IPTWs the learning cases,

treatment options, difficulties etc. in the interprofessional team, conduct interprofessional visits and interprofessional Handing over. The tasks, resources and skills of the various professions can thus be better identified and recognized, which enormously improves mutual understanding for one another. This leads to increased cooperation between nursing trainees and medical students, who will most likely continue in later professional life. Besides a pleasant working atmosphere that promotes the mental health of employees, the result is, above all, more efficient workflows and treatment procedures. Furthermore, it could be shown that interprofessional cooperation leads to a reduction of error rates and thus has a positive effect on patient safety.

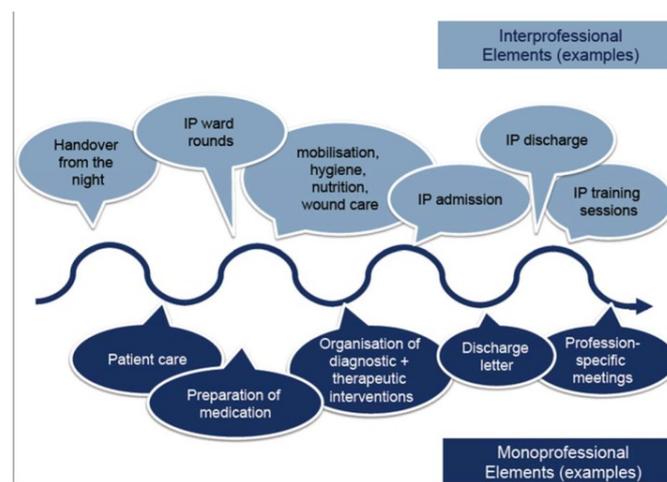


Figure 8: Interprofessional and subject specific competence elements on an IPTW

- Improving holistic health care
 In 2010, the WHO guidelines described that innovative strategy of inter-professional cooperation in teaching, research and education alleviated the global labour crisis in the health sector could be. According to the WHO definition, under an "interprofessional training" means learning from and with each other of several professions, in order to improve cooperation between the in the health care sector. Ultimately, the establishment of interprofessional learning an important step towards a safe and secure "medical work system" and thus to develop a better holistic Providing health care in society for all citizens to be able to.

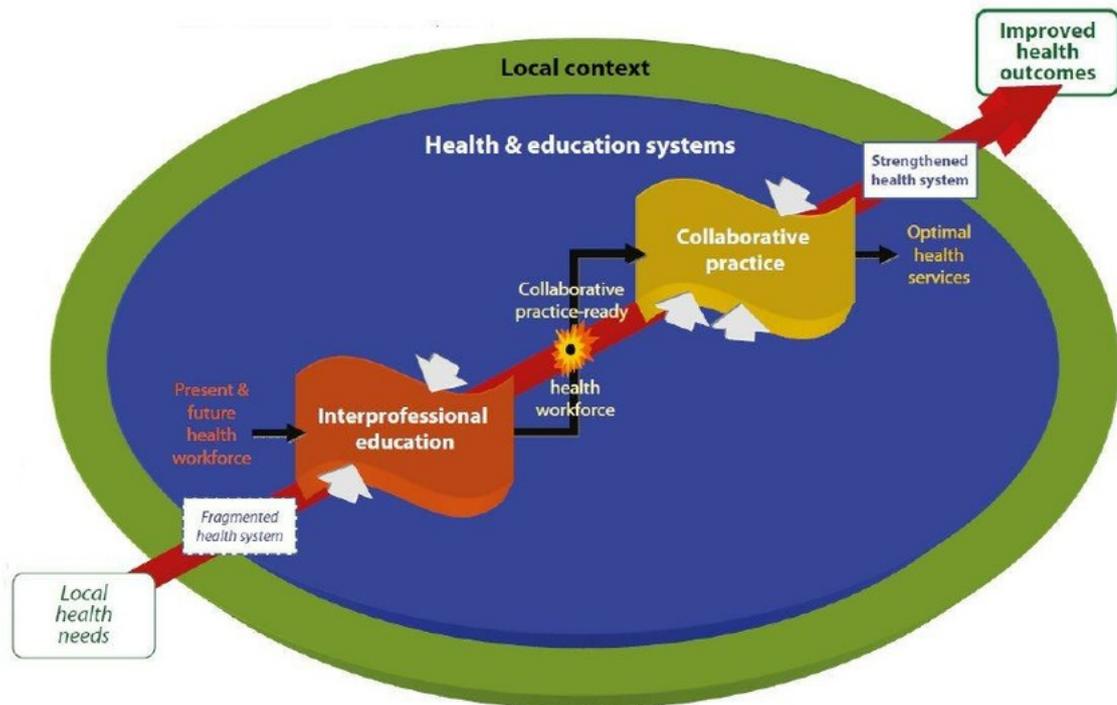


Figure 9: Presentation of the extensive system of interprofessional teaching and practice in health care.

- Lighthouse project in the practical year

An IPTW stands out as an innovative and future-oriented project, which makes a site more attractive for all trainees and students. is increased. In the sense of "lighthouse project", a IPTW is responsible for securing the next generation of scientists in the respective subject or nursing field. Especially with a view to the current situation of final year medical students teaching, which is in great need of improvement IPTWs create an incentive that attracts final year medical students to the respective clinic and through improved training and a pleasant working atmosphere can also bind in the long term. Instead of an optimal preparation for the start of the medical professional life are often blunt routine activities such as blood sampling, errands and documentation the tasks in final year medical students. Thus the everyday life is of a final year medical student student is sometimes

anything but "competence promoting" and Preparing for the reality of everyday working life in the later professional field. Many final year medical students complain, among other things, about a low esteem on the part of Clinics, which are affected by the lack of the possibility to use the patient management system up to the position of a locker or work clothes is enough. It is of enormous importance to strive for improvements here, so that junior staff can be trained professionally and at the highest level of competence can be trained. This is where the IPTW concept comes in.

- Self-management - into professional life with competence
An IPTW will improve the quality of education for both students as well as trainees. The independent and autonomous Working under active learning support requires the students to think independently, apply their knowledge, work to structure their work and at the same time become aware of their abilities, but also of gaps. Thus the time at the IPTW is limited by the tight orientation on the graduate profile the ideal preparation for the Career entry in the near future: the invaluable experience that the apprentices on an IPTW, enables them in their professional life to take responsibility with confidence.
- Feedback: actively promoting learning
To be given responsibility within an appropriate framework, independently to work and a constructive and often positive feedback of patients, learning guides and team members, increases the Feeling of self-confidence and appreciation enormous. This is the lived feedback culture is an essential part of the IPTW, in order to be able to work together in a team and study with the others. The active application of what has been learned in work on your own and yet knowing that when you are uncertain, someone is Experienced staff on the spot - this is one of the reasons why the satisfaction of students and trainees is increased improved at the IPTW. Furthermore a precise examination of the patient cases and the constant Exchange between nursing trainees and final year medical students on the one hand and students and learning companions on the other hand the basics of patient safety on the IPTWs.

Fehlerkultur: Verbesserung der Patientensicherheit durch gerichtete Kommunikation Error culture: Improving patient safety through targeted

Communication

- Error culture: Improving patient safety through targeted communication

One of the most important and most difficult interfaces in the medical Care represents the patient handover. So far, in most clinics the handover processes are unstructured and the daily routine in the wards is characterized of time pressure and lack of internal communication between the various specialist areas or professions. Through many interruptions treatment errors often occur during the care process on both the medical and nursing side. One approach, to counteract this problem is the early joint development of a common Learning and communication at different professional levels. At an IPTW, students and trainees can learn from the very beginning what it means being "dependent" on each other and as a team, treating a patient in order to achieve the best possible treatment result. Overall, there is scientific evidence that structured and well communicated patient handovers Treatment errors effectively can be reduced and thus the number of unexpected deaths can be reduced.¹⁵

¹⁵Höchtner DJ, von Dossow V. Strukturierte Patientenübergabe. Intensivmedizin up2date 2018; 14:75-84

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Source: www.researchgate.net/profile/Vishnu_Renjith/publication/274375623/figure/fig1/AS:294685944893440@1447270012304/Action-Framework-on-Interprofessional-Education-and-Collaborative-Practice-WHO-2010.png

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