

OP 3.3.3

Development of motivation schemes (Version 1.0)

CENTRAL EUROPE Programme 2007 – 2013

PRIORITY 1: Facilitating innovation across Central Europe

Document Classification

Title	Development of motivation schemes
Output	3.3.3
Reporting Period	2; Okt. 2010 – Mar. 2011
Contractual Date of Delivery	30. Nov. 2010
Actual date of Delivery	

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Work package	3 3.3. Concept development
Dissemination level	Public
Nature	Report
Version	1.0
Doc ID code	
Summary	Development of motivation schemes (IP for inventors, R&D projects, staff extensions etc.) for their participation in the planned innovation workshops

Introduction

This paper provides an overview on possible motivation schemes for hospitals and their staff for motivating them to participate in IntraMED-C2C and the planned innovation workshops. After a short introduction on IntraMED-C2C a short overview on the IntraMED-C2C approach for increasing the innovation transfer from clinics to companies will be given. Three types of motivation schemes will be described afterwards:

1. The motivation scheme for the participation at the innovation workshop will be described, with a clear focus on the benefits for the participants.
2. Targeting motivation schemes for clinics interested in implementing an innovation management system. These motivation schemes have to be directly implemented in the clinics.
3. A concept for setting up an innovation award will be proposed. This innovation award will support the sustainable identification of inventions in clinics across Central Europe.

IntraMED-C2C - Background

Hospitals have a high potential for innovations in product, process and service development. There are a lot of reasons, why this innovation potential is insufficiently transferred into results such as product development for companies, Intellectual Property (IP) generation and better healthcare processes. Obstacles are e.g. different interests of clinics (efficient clinic management, welfare of patients, etc.) and industry, resp. companies (economic interest, dominate as a supplier, etc.). Especially small and medium-sized companies (SMEs) and developments initiated by the clinic staff do not have the resources and chances to transfer their ideas and knowledge into products. The exploitation of the idea from clinical staff and the conversion in user-driven innovation together with SMEs are the InTraMed-C2C key activities.

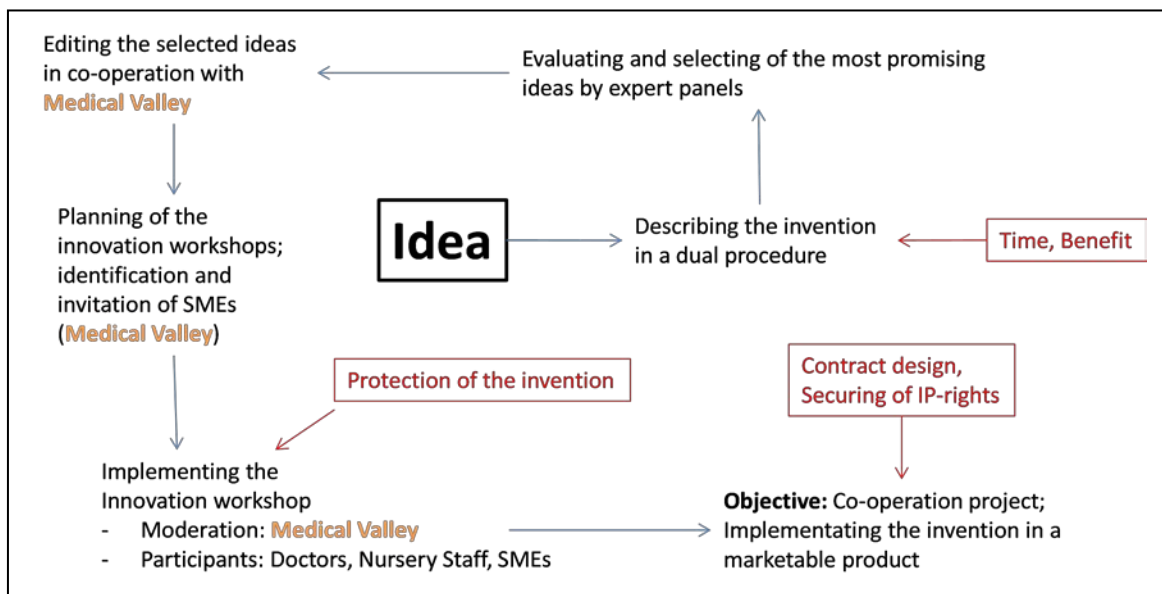
IntraMED-C2C – The concept

InTraMed-C2C will initiate, develop and provide tools for strengthening the innovation transfer from clinics to companies. One major step is to strengthen the access of SMEs (European wide) to the innovation potential in the clinics. This will open new markets for their products. SMEs are highly interested to get access and to be involved in this innovation transfer process and they have certain advantages to be successful. SMEs have the flexibility to develop labtypes, prototypes or small business solutions for bottom-up approaches out of the daily clinic work. A tool for initiating the access of SMEs to the hospitals could be workshop-based. Pilot workshops will be organized by the project according to regional particularities. The expected results of InTraMed-C2C are:

- Implementing tools for strengthening innovation transfer from clinics to companies, especially tools for access of SMEs to the innovation capability in clinics.
- Pilot generation of new products, processes and services. Hospitals propose innovative ideas from their clinical staff to product and process innovation and receive customized solutions by specialized SMEs.

IntraMED-C2C – The approach

In the center of all activities stands the idea/invention. InTraMed-C2C will define some kind of formal procedure for the application of innovative ideas. The clinical staff in a first step will prepare a document presenting its basic idea about innovation with a statement on advantages and disadvantages. The document will be presented to a small expert group. If the group finds the idea enough innovative it will be subject to the InTraMed-C2C innovation process.



For each partner region of InTraMed-C2C the regional IntraMED-C2C partner will plan the innovation process in close cooperation with the idea generating hospital. The basic activities are the planning of the innovation workshops and the invitation of SMEs that can provide problem solutions for the selected ideas. The implementation of the workshop will be under the responsibility of the hospital together with the regional IntraMED-C2C partner. The workshop will take place in the inventing hospital. The regional IntraMED-C2C partner will take over the role as moderator. Participants from the clinics will be the inventors and related experts. Selected SMEs join the workshops. In the forefront of the workshops the idea will be protected by NDA, etc. The objective of the workshop is to realize cooperation projects that implement the invention in an innovative, marketable product or a patent.

Need for motivation scheme

Among others the highest barrier of invention is the lack of time and benefits for clinical staff. The ideas are in their heads but forwarding these ideas to an idea or innovation management system (if existing) is limited due to these barriers. It is all a matter of motivation. Motivation and innovation are closely linked. The clinic staff needs motivation to think about, work on and communicate its innovative ideas. The staff member has to be aware of the fact that he can contribute to innovation that can increase health care. The motivation can be the reason to work on the exploration of the invention. But different types of staff need different types of motivation to deal with their innovative ideas in an innovation process. In this outlined report different types of motivation schemes will be described.

Methodology

InTraMed-C2C followed a multistep procedure. The first step was to analyze, what types of motivation schemes are common and already implemented in clinics across Central Europe. Based on a questionnaire (see in Appendix) developed by PP12 each partner analyzed up to three clinics on their innovation/idea management system with special focus on implemented motivation schemes. The results of the analysis were evaluated and the main outcomes shortly described per country. Based on these findings motivation schemes have been described in a second step. Therefore the possibilities of InTraMed-C2C have been cross-checked and a bundle of short term to be implemented motivation schemes offering benefits to the inventors for participating in the InTraMed-C2C innovation workshops described. Besides targeting motivation schemes were defined that can be beneficial for the innovation management process implemented in clinics. Additionally an IntraMed-C2C innovation award has been defined in order to strengthen the Central European innovation capacity by extracting innovative ideas from clinics over this centralized award. These three types of motivation schemes will be presented later in this report under the section "Motivation Schemes".

Overview on country specific clinical innovation transfer systems incl. motivation schemes

1. Austria

In the interviewed clinics there are different motivation schemes.

- **AKH Linz:** An intranet tool "vox AHK" was used where the staff can mention ideas, problems, failures, etc. An award was provided, the price was a voucher for a restaurant. The award system was stopped. There had been a problem of envy as the award winners had been awarded in an open ceremony. Due to the decentralized system all innovative ideas had to be forwarded to the respective departments.
- **GESPAG:** An idea coordinator is implemented. A paper sheet has to be submitted or the idea coordinator directly addressed. A give-away for all ideas, up to 2.700 € for a transferred idea. Due to the decentralized system all innovative ideas will be forwarded to the respective departments.
- **Klinikum Wels-Grieskirchen GmbH:** An idea suggestion scheme over an intranet tool is implemented. No incentives are granted. The clinical quality management is responsible for the management. All innovative ideas will be forwarded to the respective departments.

2. Germany

General: The interviewed clinics have already or work on installing an idea management system.

- **Städtisches Klinikum München:** An idea suggestion scheme was implemented in 2009. A full time employee deals with all processes regarding the idea management. A monetary incentive is provided. A formula makes calculation easy and transparent: (10 % of yearly savings * rank factor). The maximum amount for the monetary incentive is 20.000 €. The idea has to be offered to the clinic in first position. If the idea is selected the amount is paid according to the formula. If there is an IP the inventor gets the amount according to the regulations of national law.

- **Klinikum rechts der Isar der TUM:** An idea suggestion scheme is planned for 2011. Currently it handles innovation transfer in a decentralized manner. The inventor gets 30 % of the net income of the re-use according to §42 employee invention law. In a cooperation with industrial partners the invention level of both parties has impact on the license fees. In case of a co-operation project with the industry the clinic is interested in applying for a patent. The patent department is responsible for this process.
- **Cnopf'sche Kinderklinik:** An idea suggestion scheme is already implemented. The clinical staff brings in its ideas in a centralized system. The ideas are evaluated. In case that the ideas are positively evaluated a co-operation with a fixed team of companies will be discussed to bring the idea to a product. Incentives are given according to the internal regulation. A certain amount is paid.

3. Italy

Three clinics had been interviewed. In all three clinics no direct financial incentive is granted. According to the clinics the main incentive is fame. But a financial incentive is granted for each employee at the end of the year taking the participation at an idea management into account.

- In the **Hospital Bolzano** no motivation scheme exists to foster innovation transfer. According to public contracts no benefit by the clinical staff in IP is possible what also concerns the public hospital in Bolzano. The clinical staff cannot benefit from IP. The clinical staff can also not participate in working groups during working time due to legal restrictions for public hospitals. There is also no possibility for financial motivation. If a motivation scheme should be installed a call for tender must be launched for the management.
- In the two private clinics **Villa Melitta** and **Bonvicini Clinic** have implemented the management of the motivation scheme is centralized. Ideas are directly discussed with TIS and the partner SMEs from Bolzano region. Villa Melitta is participating actively in the development process as they are participating in development meetings. The Bonvinci Clinic doesn't participate directly as R&D is outsourced. TIS organizes the working groups. For the private sector hospitals no legal rule for participation in IP is given.

4. Poland

In the interviewed Polish clinics, i.e. John Paul II Hospital Krakow there doesn't exist a motivation scheme supporting the idea and innovation management process yet. In Polish law there is no employee invention law. An industrial property law exists. It depends on the employer if the employee can benefit from IP.

5. Hungary:

In the interviewed clinics no standardized motivation scheme to communicate innovative ideas can be found in the clinics. Innovation transfer is just common in university hospitals.

6. Slovenia:

In Slovenia among the three interviewed clinics there exists just a sort of motivation scheme in the hospital for gynecology and obstetrics Kran. Employees can suggest their ideas in special forms named beneficial suggestions where they fill in their innovative ideas. Suggestions are studied by the selected committee of doctors (department leaders) who

decide which ideas are enough innovative to use them in practice. Even if innovators of ideas or patents are employees, the merit goes to the hospital. The benefit of the employer isn't formally written, but every 3 months there is a symbolic money prize (for useful suggestions) and the amount of money is based on the subjective evaluation. The benefit of the employer isn't formally written, but every 3 months there is a symbolic money prize (for useful suggestions) and the amount of money is based on the subjective evaluation.

It is only the general law about industrial rights from working relationships that besides other parts defines also technological and other improvements for reaching higher efficiency, better quality of the products, saving of material and energy, also better exploiting of machines and other instruments, better control and safety. In the clinic is obvious that ideas of clinical staff are for the benefit of the institution and therefore the innovation becomes the clinic's ownership. The benefit of the clinical staff regarding their innovative idea should be the overall national interest and therefore defined within legal framework on the national level. There is no national legal framework that regulates the benefit of the owner of the idea/clinical staff and there is no legal obstacles in our country and region that would hinder such an innovation transfer. There is no national legal framework that regulates the benefit of the owner of the idea/clinical staff and there is no legal obstacles in our country and region that would hinder such an innovation transfer.

7. Czech Republic

In the Czech Rep. motivation schemes are not applied in hospitals.

Of course this outline is not universal, as just a maximum of three clinics per partner region have been interviewed. No universal picture of the motivation scheme environment in the clinics of Central Europe can be given. But it became obvious that innovation management systems and accompanying motivation schemes in clinics are not very common instruments.

Recommendations for Motivation Schemes

During the interviews several recommendations had been made for the development of a clinical innovation management system accompanied by targeting motivation schemes. The main outcomes will be discussed here.

General:

- The hospitals / clinics' director of research should be **responsible for** taking care of the innovations in hospital, and for developing the hospital innovative rules.
- The hospitals and industrial partners to create an **independent service** to manage innovation within the hospitals / clinics, which has experienced physicians and technicians to help innovators in the hospital for performing the appropriate level of formalization innovation
- The health administration should be encouraged to constitute the legislative and institutional framework to **rewarding moral system** for innovators (with appropriate fee award, reward ceremonies, 'innovation club', establishment of the associated benefits, etc) as well as **rights adhering to the innovations**.

Benefits:

- A Motivation Scheme should be based on financial (one-off payment or future shares) and non-financial benefits (possibility to publish information about research and

development activities; taking advantage from conducting trainings about the implementation of the invention).

- Financial benefit is seen as main incentive. “Small grants many times” better than the “great money once”.
- In research driven hospitals, i.e. university hospitals, a motivation could be to offer necessary equipment and infrastructure for researches based on innovation efforts.
- Established prizes, diplomas and the related intangible gratuities further enhance the rank of innovations. These facilities provide opportunities for managers to communicate their institutes’ professional work’s quality.
- The best motivation for clinical staff would be money or special prize, also trainings or needed education. Incentive for the clinical staff motivations that prepare or submit innovative ideas could be in the form of reward for special achievement (innovation) or some kind of agreement with SME’s about the share of commission on the sale of the product or service.
- If the idea is not selected by the clinic the inventor should be able to use the idea on its own permit.

Administration:

- In the respective clinic an internal department should be responsible for the management of the motivation scheme, together with the innovation management system. A standard innovation transfer could look like follows: Central unit works inside and outside of the clinic. Inside: Encourage clinical staff to share ideas, making presentations about advantages of innovation transfer, explaining regulations, undertaking promotional activities. Outside: If there is an idea it is checked on the patent capacity, the second step is to support the commercialization process by offering legal assistance, looking to financial sources to cover costs of the patent.
- First step of an innovation management is to check if the idea is a real innovation or not. The second step is to find industrial partners
- The contact person for innovation management/motivation scheme should be clear. The doctors, medical professionals, who have original idea during the daily work, often do not know whom to contact in the institution without any regulation. The hospitals can be facilitated by drawing up some rules of the innovation developed by the professional body, or prepared general rules format (Template for Innovation Scheme).
- Briefing the employees that ideas are welcome and installing an efficient quality management that is personally known (i.e. per department) could be more appropriate than installing an idea suggestion scheme or an award.
- The specification of the operating environment needs to be done in the presence of Rules of Innovation. In research managers’ job description should be extended the management of innovation within the hospital. The periodic (annual) research report must include the incurred and realized innovations. The evaluation report should cover the core innovations in best management practices of institutions; health care government organizes thematic conferences annually. In this way, innovation can be spread more widely, which marketing is not subject for the innovator.

Legal background:

- The motivation scheme should be installed according to the legal background of each partner country. In Germany i.e. there is an employee invention law that regulates In Polish law there is no employee invention law. An industrial property law exists. It depends on the employer if the employee can benefit from IP.
- Protection of the invention is a very sensitive subject. InTraMed-C2C should take a look at the IP regulations of each partner country. The decision on who will pay for the protection of the idea, and who will be the owner of the IP and so on shall be subject of a case by case discussion on basis of the different country peculiarities.
- In each innovation management/motivation scheme implemented in clinics binding legal rules regarding Intellectual Property Rights have to be set.

Motivation Schemes

1. Benefits for clinics and inventors by participating in the innovation workshops

IntraMed-C2C has been monitored on its possibilities of offering motivation schemes for clinical staff within the framework of the InTraMed-C2C project. The possibilities of motivation are manifold:

Clinics:

- IntraMED-C2C offers an easy to install solution for innovation transfer from hospitals to companies. This leads to a professionalisation of innovation management within the clinics.
- Regional IntraMED-C2C partners offer for free services to support the hospitals during the innovation process.
 - Workshops in the clinics with clinical staff in order to identify inventions.
 - Evaluation of the invention regarding market potential, technical potential and sustainability. (I think we can't / don't should offer this support)
 - Editing the described idea to the needs of possible cooperation partners.
 - Planning the innovation workshop.
 - Inviting selected SMEs that offer problem solutions to the innovation workshop.
 - Providing guidance in all questions regarding IP rights. (I think we can't / don't should offer this support)

Clinic staff

- IP participation: The idea is the first step towards innovation. Inventors should benefit from sharing their idea. In case of a patentable product as result of the innovation process the inventor should be named at the patent application. For clinics that have no experience in IP participation workshops will be offered to inform them on legal and technical points.
- Depending on the internal regulations within the clinics the clinical staff can participate in different ways during InTraMed-C2C lifetime:

- Monetary benefit for clinical staff to share ideas should be realized according to the internal regulations of the clinics regarding employee suggestion schemes or similar systems.
- In case of research driven hospitals (i.e. university clinics) an agreement between the clinics and cooperation partners must enable the clinical staff to publish their invention in journals.

2. Improved motivation schemes for innovation transfer systems to be implemented in clinics

Innovation is in most clinics across Central Europe no routine work of clinical staff. It can be a philosophy of the clinics that could be (in the medium term) present in all the activities during work of the clinic staff.

Innovation in the health care sector is important for clinical staff (efficiency) and especially for patients (improved healthcare). Installing an innovation management in clinics has to be accompanied by a working motivation scheme. The purpose of such a motivation scheme will vary across the clinics. The implementation of such a motivation scheme can encourage innovation by i.e. providing financial and non-financial rewards to staff to reward inventions. Motivation schemes set an environment which encourages and rewards innovation. In the following some motivation schemes will be described that can contribute to motivate possible partners in the innovation process.

Motivating employees:

The clinics across Central Europe can install different motivation schemes to motivate their staff. Various staff motivation will be briefly summarized in the following:

- ***Installing an innovation suggestions scheme:*** An innovation suggestion scheme aims to encourage the clinical staff to make suggestions for innovation within the clinics, regarding products or processes. Reward should be cash reward according to a pre-defined level.
- ***Make the idea the clinics property:*** If a working innovation management is installed in a clinic the innovation process can be efficiently supported. The inventor could be motivated if the innovation management unit “buys” for a certain price the idea and brings it to commercialization. The clinic has the right at the idea/invention. The inventor afterwards benefits over a pre-defined share.
- The list of exemplary motivation schemes for motivating clinical staff will be enhanced in the next months.

Motivating clinics:

- ***Make the idea the clinics property:*** If a working innovation management is installed in a clinic the innovation process can be efficiently supported. The inventor could be motivated if the innovation management unit “buys” for a certain price the idea and

brings it to commercialization. The clinic has the right at the idea/invention and will get in medium term financial benefit out of the idea if the idea will be commercialized.

- **Inventor as part of the project team:** Clinical departments have just limited resources and have to keep their budgets. Inventors often cannot participate at the innovation process due to internal restrictions of the department they are working in as participation of the inventor at the innovation process is a cost factor. Paying the salary for the inventors (i.e. 14 days) would enable the inventor to be part of the project team and having a benefit for the department as the cost factor is limited.
- The list of exemplary motivation schemes for motivating clinical staff will be enhanced in the next months.

3. The Innovation Award

The IntraMED-C2C Innovation Award can be realized as middle-term system for the gathering of innovative ideas from clinical staff.

IntraMED-C2C – Innovation Award - Aim

The aim of the IntraMED-C2C – Innovation Award is to implement a CE wide system that enables the steady exploration of innovative ideas from clinics in Central Europe. The identified ideas shall deal with medical technology product innovation. The innovation award shall be one supporting instrument to foster the commercial utilization of ideas and inventions from clinic staff.

IntraMED-C2C – Innovation Award - Target Group

The IntraMed-C2C innovation award is open to employees from clinics of all levels of health care situated in Central Europe. Especially following groups are seen as relevant target group members:

- Clinical doctors
- Clinical care staff
- Technicians from clinics

Defining possible applicants

- Applicants can be all employees of clinics that have innovative ideas on how to improve health care by innovative medical technology products.

Access to the clinical target group

- The IntraMED-C2C – Innovation Award will be communicated to all clinics. All clinics are kindly asked to provide the information to its clinical staff. Besides, the information will be directly send to clinical contacts and published in the internet.

IntraMED-C2C – Innovation Award - Scope

The IntraMed-C2C Innovation Award can be granted for ideas and inventions from healthcare and medical technology that shall allow the development of a medical device or improved process in healthcare for the benefit of patients. Inventors must act under the regulation of national law and the internal regulations of their employer.

IntraMED-C2C – Innovation Award - *Management structure*

Management body

- The main management structure is the Innovation Award Management Group (IAMG). The IAMG is composed of the IntraMED-C2C project partners under the chair of Bayern Innovativ.
- The IntraMED-C2C country partners are contact for their home countries. For each country a country specific working group will be installed. The country specific working group will be responsible for all activities concerning its home country. The country specific working groups are:
 - Germany: Bayern Innovativ GmbH and Medical Valley EMN e.V.
 - Austria: Clusterland Upper-Austria, Health Technology Cluster
 - Italy: TIS Innovation Park
 - Slovenia: Business support centre Ltd
 - Poland: Lower Silesian Voivodeship and John Paul II Hospital
 - Czech Republic: Centre for research, innovation and regional development
 - Hungary: Budapest University of Technology and Economics and University of Debrecen
- The IAMG will be responsible to raise funds or gifts for running the IntraMED-C2C – Innovation Award

Administrative processes

- The basic information platform will be the IntraMED-C2C – Innovation Award website. All information on the award will be published there.
- The IAMG will develop an idea submission guideline that provides all necessary information and administrative procedures of the innovation award. This guideline will be published on the website.
- The submission of innovative ideas will follow a call for application launched by the IAMG and published also on the website.
- The IAMG provides a form at the website where inventors from clinics across Central Europe can fill in their ideas. The ideas can be submitted in the country language. The ideas will automatically forwarded to the IAMG.
- A circle of evaluators from all CE countries will evaluate the innovative ideas and make a pre-selection on a point system. Confidentiality will be guaranteed by NDAs between the IAMG and the evaluators.

Jury

- A Jury will be formed that evaluates the submitted concepts. Each member of the Jury will conduct a confidential disclosure agreement to protect the confidentiality of the idea.
- The Jury will be assembled of experts from the field of medical technology and health care.
- Each member of the Jury will evaluate the submitted concepts after clearly defined rules on a point system (desk work).
- The Jury will discuss the innovative ideas in a meeting. The results of the evaluation will be considered. The Jury jointly decides on the premium ideas. A total number of three ideas will be awarded.

Award ceremony

- An award ceremony will be planned. During the ceremony the winning innovative ideas will be priced by the chair of the IAMG.
- The award ceremony will be attached to an event with European outreach.

IntraMED-C2C – Innovation Award - Prizes

For the IntraMED-C2C – Innovation Award prizes will be offered as a reward for the most innovative ideas. The prizes will be provided by sponsors the IntraMED-C2C partners will attract. The three most promising ideas will be awarded with a prize. The prize will be handed over during the award ceremony. The ceremony will be attached to events with Central European outreach.

IntraMED-C2C – Innovation Award - Dissemination

A targeted marketing strategy will be developed in order to develop the brand IntraMED-C2C – Innovation Award. A bundle of basic work is necessary to develop the initial marketing potential. A logo for the IntraMED-C2C – Innovation Award on the basis of the official project logo as well as a slogan and an information portfolio has to be developed. Over the website, dedicated mailings, flyers and personal approach of hospitals the InTraMed-C2C Innovation Award will be visualized.

Appendix

IntraMED-C2C – Innovation transfer in the medical sector from clinics to companies



Evaluation of motivation schemes for eluting innovative ideas within clinics

Questionnaire

This questionnaire provides guidelines for the interviews with clinics. Each partner of IntraMED-C2C is requested to interview at least two clinics within its region in order to get the requested information.

At the beginning of each interview the respective partner informs the interviewee on IntraMED-C2C and describes what will be the purpose of the interview.

The main purpose of the interview is

1. to figure out successful motivation schemes within clinics and
2. to get an idea on the legal framework regarding innovation transfer, i.e. employee inventive act, within the participating countries.

- | |
|--|
| 1. Has your clinic implemented a motivation scheme for clinical staff to elute innovative ideas regarding products and processes within the clinics? |
|--|

If yes, ask questions 2 to 7, if no, ask question 8 – 12.

2. How does the motivation scheme work in terms of administrative processes?
3. What is the incentive that shall motivate the clinical staff to share their innovative ideas? Money, prizes, etc.?
4. How is the amount/height of the incentive calculated?
5. What department is responsible for the management of the motivation scheme? Centralized, decentralized, etc.?
6. In case of eluting innovative ideas from the clinical staff, how do you transfer the ideas (product or process innovation) to companies in order to develop solutions? What is the standardized process?
7. Does the clinical staff benefit from its innovative idea in terms of money, participation in IP, etc.? What are the internal rules?
8. What would be an ideal motivation scheme in order to elute innovative ideas regarding products and processes within the clinics?
9. What could be the incentive that could motivate the clinical staff to share their innovative ideas? Money, prizes, etc.?
10. What department could be responsible for the management of the motivation scheme? Centralized, decentralized, etc.?
11. How could a standardized process of innovation transfer from innovative ideas from clinical staff to companies for developing targeting solutions look like?
12. What would be the internal rules for the benefit of the clinical staff regarding its innovative idea in terms of money, participation in IP, etc.?
13. Are there any national legal frameworks that regulate the benefit of the owner of the idea/clinical staff, i.e. an employee inventive act?
14. If there are any legal frameworks, please give some detailed information.
15. Are there any legal obstacles in your country or region that would hinder such an innovation transfer?
16. Would your clinic be interested to become co-owner of a possible IP emerging from an innovative idea from within the clinic?