Supplement table 2: Exemplary quotes for themes and topics regarding access, compensation, and prioritization from the original transcripts

Main theme A: Access elements	
1.General	
1.1 Development of access inquiries in the next few years	
1.1.1 International cooperation of biobanks necessary	(…) that you cooperate all over Europe, to build collections that in the end really bring forth results. In research, maybe even in development of medicines. One single biobank will never be able to do this. So that is the general trend, that all realize that cooperation makes sense. (I1, translated by the authors).
1.1.2 Access will increase	Ok, no, we hope that it will increase considerably. And the collections have been buildt since years and together woth the clinical data become more valuable, so that now even more complex access requests can be dealt with. (I6, translated by the authors)
1.1.3 Access will not increase	I would like to expect it in the future (…). But whether it will happen I don't know. I think there is a perception or a feeling that the law makes it a difficult process. So, that may be inhibiting researchers from doing it. And it may also be that we don't do enough advertising. Generally people come to us to collect new samples or to put new samples into the biobank here. It's not so often they come asking to access existing samples. I recognize we, as a biobank, need to do more to advertise that and we will do more in the future (9)
1.2 Number and origin of access requests	
1.2.1 Main origin of requests	
1.2.1.1Mostly local or national access requests	(…) it's mainly local people who access it. But we are open to others but we don't market ourselves actively so it tends to be only local people. (I12)
1.2.1.2 Many requests for usage in international collaborations	It is in fact. It is, we debated this when we started out because we, you know, there is a slight difference between industry driven research and academic driven research. In the sense of if you like end points and potentially money making. But we figured that we wanted it to be used by the most people and we figured that if indirectly if say a pharma company wanted to use samples for some reason rather it would, you know, they can access the

	samples in the same way and they can use, you know, the idea you have to go to the Research Management Board, the actual application, it has to fit in (…) So we haven't yet had someone ask us for samples that have been unrelated to the mission of the bank. I don't know what would happen if they did. I suspect we would think carefully before we said no because we want the bank to be used. (I18)
1.2.1.3 Number of international external requests	We have at times, I would say maybe between five and ten times per year, request from international researchers (I3, translated by the authors)
1.2.2 Industry access	
1.2.2.1 No use of samples for commercial purpose	And they can only use it for medical research, nothing else (…) So we will never give samples for cosmetical industry of something like that, it is always medical research. (I15)
1.2.2.2 Usage according to overall biobank goals	It is in fact. It is, we debated this when we started out because we, you know, there is a slight difference between industry driven research and academic driven research. In the sense of if you like end points and potentially money making. But we figured that we wanted it to be used by the most people. (I18)
1.2.2.3 Patient acceptance of industry access	Well, to enroll people in these studies, we need acceptance. And it is helpful when patients know what will be done with their data and what will not be done. And there industry plays a daunting role. So if industry without further conditions can access the biobank, it might happen that patients say „no, I don't want that any pharma companies get rich by using my data". (I13, translated by the authors)
1.2.2.4 Access only in cooperative projects	It is not prohibited, the broad consent allows in principle a cooperation with pharmaceutical or diagnostic industry, bit it has to be a cooperation project. (…) We do not sell our samples. (I1, translated by the authors)
1.2.2.5 Access equal for industry and academia	R: So currently I will say half is from local researchers and half from non-local, so far away either academic or industry requestors. I: Okay so you don't discriminate between academic and industry research? R: No. (I11)
1.2.2.6 Access for industry only for scientific projects	So, I do not preclude it in general, but I think, we are an academic institution (…) and I know people who cooperate with industry, but it is always in concrete, scientific projects. (I3, translated by the authors)
1.2.3 Number of access requests	Well, requests, I would say maybe one or two per month. But many of which are very

	general and not specifically require samples from our biobank, so that there are many K.O.-criteria in the requests. (I5, translated by the authors)
1.2.4 Time needed for access procedure and decision	And again this could take some time and there is a lot of conversations that happen with the researchers, so that they know if they want DNA or RNA, then it is going to take a little bit longer if we have to extract it. So it is not, they are not going to get a yes-decision today and get their samples tomorrow. (I7)
2. Access policy	
2.1 Challenges	
2.1.1 Time-consuming	The challenge was the development. It took us two years (I1, translated by the authors)
2.1.2 Sensitive internal issues	Yes, I mean there are which is why, I think at the moment which is why we have the page that really tries to crystallise the important information down into a more simple version. It maybe then also means not all the information is on there. I mean our access policies for example that we will not supply an intermediary. So, sort of tissue brokers who are just passing it on to elsewhere. And I am not entirely sure actually whether that is online. And whether that degree of transparency is the right way or the wrong way to go (…) I think we would have to very carefully review some of the documentation before it was made available in its entirety, that, yes. (I7)
2.1.3 Lack of personal resources	Personally I would like to see more content online (…) but then someone would need to do the programming (I3, translated by the authors)
2.1.4 Technical challenges	Yeah, maybe a technical reason. (…)I think it's our communication and the design of the website (…) the approach is rather you know to have bullet points, the short communication not so long texts (I11)
2.2 Adapting national standards to increase local compliance	But in general we take the national documents as a standards and that helps because people think, professionals think when it's the national standard and then it's well thought of and well designed. (I16)
2.3 Access policy exists	It is sort of a terms and conditions document (…) It outlines, how access to samples is governed, but alos how the patient can withdraw his consent, how to deal with incidental findings and so on. (I10, translated by the authors)
2.4 Online availability	Yes. It is publicly available. It also governs the relationship with the donors. And that is why

	it needs to be transparent. (I10, translated by the authors)
3. Access committee	
3.1 Access decisions	
3.1.1 Informal sample sharing	The problem in academia is that there is still very much informal exchange of materials and data between you researches who know them, who are familiar with each other by conferences and they exchange still a lot of materials and accept that just for co-authorships and that kind of thing. (I16)
3.1.2 Using materials is important	Yeah I mean I think this … you have to think about the ethics of access as well. And so we've taken the standpoint that material that you take from a patient where you've consented and said it's going to be used in research you almost have a contract with that patient to make sure that really it's used in research. So you should make it as widely available as possible but it has to be good science otherwise it's a misuse of the sample and actually you've broken the contract with the patient. (I12)
3.1.3 Broad access	No in fact we do have the policy (…) to be as open as possible. And the idea behind is this is a public funded enterprise and the patients delivered their samples and their data in view of speeding up the research and everyone in the world who has a bright idea to contribute to science and can use our materials, may use it if it's a serious question and worth pursuing. (I16)
3.1.4 Researcher right to appeal	If the outcome is a rejection then the researcher has the option to appeal that decision. And if they do want to appeal our decision then we have a strategic board that we call advisory board and as a subgroup of people on the advisory board, there are two or three people that will form the sort of appeal's panel. So they have not been involved in the review at all, so they come into a completely, completely fresh. And they will look at any appeal process. But then assuming the application has been successful, we get all the samples together. And again this could take some time and there is a lot of conversations that happen with the researchers, so that they know if they want DNA or RNA, then it is going to take a little bit longer if we have to extract it. So it is not, they are not going to get a yes-decision today and get their samples tomorrow. (I7)
3.1.5 Scientific rationale	The project proposal is checked by me, the scientific head. And I have a look at the proposal

	and it hast to have a certain scientific rigor. So, they cannot simply write we need 100 samples to measure factor x. The science behind it needs to be explained and why it is of interest (I6, translated by the authors)
3.1.6 Refusal of access is not common	Well it is an exception that a biobank refuses an access request. And it needs to be justified. (I3, translated by the authors)
3.1.7 Reasons for access refusal	
3.1.7.1 Refusal because access is not covered by IC	(…) the patient consent could limit the possibility of access (I19, translated by the authors)
3.1.7.2 Refusal because of questionable scientific rationale	And our concern is that we would like to make sure that data is properly used, because this is a valuable collection and make sure that the protocol as it is presented to us, take the best advantage of all the resources in the biobanks. If a research group would like to know what is the average haemoglobin value in 2002 or whatever, we would not give anything out. It has to be a proper research protocol and with the best use of all the biobank collection. (I8)
3.1.7.3 Refusal because of objection from individuals	I will give you one good example. There was a pretty clever (…) researcher that wanted to, by genetic screening, look into families, where the father was not genetically proper father, to see whether that had any impact on general health in the different units. And by that revealing whether or could reveal that somebody that always thought that this was my father, then could get an idea that this was not the case anyway. So we thought, and actually the ethical review board initially approved this one, but we refused to do it. Because we thought that was information that was very risky and if it got on the wrong hands it could be a disaster. So that is one example. (I8)
3.1.7.4 Refusal because of ethical concerns	And our concern is that we would like to make sure that data is properly used, because this is a valuable collection and make sure that the protocol as it is presented to us, take the best advantage of all the resources in the biobanks. If a research group would like to know what is the average haemoglobin value in 2002 or whatever, we would not give anything out. It has to be a proper research protocol and with the best use of all the biobank collection. (8)
3.1.7.5 Refusal because of limited quantity of samples	So there a a couple of scientific questions where such a collection does not have enough samples. There it is refused because for statistical, pragmatic reasons. (I13, translated by the authors)

3.1.7.6 Refusal because of overlap with local research	There are two things. Either the local researchers work on similar projects or material is scarce (I3, translated by the authors)
3.1.7.7 Refusal because of poor reputation of researchers	Indeed we had a request once and the review was in favor for the request. But then we found out that the researcher or his team does not have a good reputation, they were blacklisted. And then we stopped it. (I4, translated by the authors)
3.1.8 Strategies for usage of samples	
3.1.8.1 Keep final aliquots	Well, if requests are sent (…) we have a provision that a certain amount of the material will not be released. (I13, translated by the authors)
3.1.8.2 Final aliquots always for local clinic	Yes. Ok, also in cases, when we decide over the release on our own, we would always keep the final aliquot for the clinic. (I6, translated by the authors)
3.1.8.3 Sample usage: turnaround of N years desired	I would prefer a turnaround of five years. So that the material we store should be used within years in research. (I10, translated by the authors)
3.1.9 Challenges in access decisions	
3.1.9.1 Limited information available	I think by far the most challenging thing is to coordinate everything. Because there are so many approving institutions outside our jurisdiction. So, for instance if we will say a definite yes to handing out samples or data then we need to have all the other things in place, meaning approval from the ethical review board, ethical committee, as I said also data inspectorate. Maybe from a number of different registries. Because maybe the researchers is requesting samples from all the participants in our data or in our cohort that have acquired some specific cancer. We don't have that sort of information, so then we have to hand out an identifiable information to the register that will then link on the information about the different disease categories and then send it back to us and we will identify this and send it to the researcher. And not before everything has been done. And some unit will say, I have to wait for that, the other one will say, I have to wait for you. So it is to coordinate everything and to get it to run smooth. This is a big challenge, not only for us but for all researchers in [this country], and I suppose in many other countries. (I8)
3.1.9.2 Huge amount of samples requested	Ok, conflicted are requests that demand huge amount of samples. Who requires less, in

	general has a better chance. (I13, translated by the authors)
3.1.9.3 No ethical challenges, only technical	The biggest challenge is that most of the time the samples are not available, are not fit for purpose because every request is so specific that it is very difficult to satisfy the criteria from stock, that's the challenge. So yeah it's not ethical, it's not technical, we're able to the sample, it's not human. It's just that every request has very specific requirements relative to the type of samples, the analytics, the data that accompany the samples and yeah it's the volume because sometimes some applications the volume is so big that it's required that if we deliver then we deplete the stock. So yeah this is the challenge. (I11)
3.1.9.4 Sometimes access process too long	Ok the biggest problem is time, often it is urgent. Well that´s the critical point, time (…) That is for all procedures within our institution a problem, because many work is done on voluntary basis (I4, translated by the authors)
3.1.9.5 Access requires consent of various actors (biobank, REC etc)	I think by far the most challenging thing is to coordinate everything. Because there are so many approving institutions outside our jurisdiction. So, for instance if we will say a definite yes to handing out samples or data then we need to have all the other things in place, meaning approval from the ethical review board, ethical committee, as I said also data inspectorate. Maybe from a number of different registries. Because maybe the researchers is requesting samples from all the participants in our data or in our cohort that have acquired some specific cancer. We don't have that sort of information, so then we have to hand out an identifiable information to the register that will then link on the information about the different disease categories and then send it back to us and we will identify this and send it to the researcher. And not before everything has been done. And some unit will say, I have to wait for that, the other one will say, I have to wait for you. So it is to coordinate everything and to get it to run smooth. This is a big challenge, not only for us but for all researchers in Norway, and I suppose in many other countries. (I8)
3.2 Access Inquiries and Processing	
3.2.1 Inquiry → REC à BB board → information to contributing researcher	Another important item is, of course, the ethical approval. So the question that is asked needs to be looked at by the medical, ethical board for approval (…) I had scientists in the past you know, saying these words in my face, so if you give any sample of me away then I always had to make clear, it's not your sample. It was sometimes difficult, but in the end,

	you know, they understand and they also need to build trust in that you do not give them away without them knowing. That is a certain trust you need to build. (I15)
3.2.2 Inquiry → REC decisions → BB board	That was the point, to have some sort of controlling possibility (…) there is the fear that samples of interest for local research would be given away too generous (…) So that was the main point of discussion, that we said we build this advisory board that has the mandate to decide, for whatever political, strategic reasons. So that we do not only say "Ethics approval is enough" , but to install a second component. The board has the opportunity to identify samples of special value for our institution, they flag them. So, these samples are reserved for ongoing local research. (I10, translated by the authors)
3.2.3 REC approval for BB, no study specific REC ap. necessary	And that is then trying to be flexible post remaining within the structure that we have the ethical approval because all this is obviously gone through our ethics committee. Because we can give, because we have ethical approval from an (…) ethics committee as a research tissue bank, which means that (…) the researcher coming to us does not need to go for ethics approval themselves. As long as (…) they don't want any data that could potentially identify the patient. We can actually confer a deemed ethics onto those researchers so that they do not have to do their own ethics application. So, we obviously have to be careful that we are all remaining compliant unto that structure, otherwise we are contrary to our ethics. (I7)
3.2.4 Biobank basic service provider not involved in decision	If someone has a cohort or study that is funded, he can store the samples with us, but then he is the owner. Then he also responsible to the ethics committee. Then, we are merely service provider (I10, translated by the authors)
3.3 Internal Peer Review Process	And then there is a small group for reviewing and we try to meet every week. So we are four, five people and then we discuss the request. And then most often we reach a consensus (I13, translated by the authors)
3.3.1 Decision is made within the research consortium	You need to send the request to our resarch consortium. Then you need to describe, I have this scientific objective and I need the biomaterials of the following persons with certain characteristics (…) And then once a month these requests are discussed in the consortium. Internal reviews are being considered to assess if the amount of material seems reasonable

	or if it seems to be too much. (I13, translated by the authors)
3.3.2 Decision made by scientific committee/consensus	We have always had a similar access committee which consists of both people being technically responsible, scientifically responsible, represented it from the management or the research and management of the biobank. And if necessary, we will also then collect information from experts in the field (I8)
3.3.3 Rota system: lead reviewer proposes decision	Various stakeholders, so we got pathologists, surgeons, molecular scientists, the whole sort of range of people. And what we started doing in the last years is, we actually have a rota system. So it used to go out to all of them and we still require 66 percent of them to return a review. But that was taking too long. So what we have actually done now is there will be lead reviewer and not just who works on the rota system. So whoever comes up to the top of the list next, they will review the application. They will let the rest of the panel know what their decision is and only if somebody disagrees with that decision will it then go out for a wider review to the whole panel. So, once the reviewers have scored the application, the scores are averaged and basically, if it is over a certain figure, it is an approval. (I7)
3.4 External peer review (on demand)	But on the other hand we have the scienitifc advisory board (…) this is the first contact when questions arise or reviews need to be done. And if this does not suffice we engage external reviwers to help us make a decision (I4, translated by the authors)
3.4.1 International review panel	So it will be allocated to whichever review stream the account manager thinks is appropriate, depending on what the research is. It will then be sent to our review panel. So our review panel review, they do not meet in person, it is all electronic. We have an international panel. (I7)
3.4.2 Recruitment of external reviewers	It is a network we are talking about. So we ask the members of our board of trustees if they know researchers in this field (…) especially the pathologists are very research-oriented (…) someone knows someone external who could be helpful in this context (I4, translated by the authors)
4.Veto rights	
4.1 Veto for internal faculty members	That is why we discuss first with the researcher to say, “Okay we have another researcher requesting a specimen do you want to give part of your specimens to the, to that researcher?” So, it’s up to the researcher to decide whether it’s yes or no and then we will

	discuss with you the requester to say, “Okay no, the researcher agreed or the researcher did not agree because he still wants to use some of the specimen for other research.” (I20)
4.2 Reasons for veto	
4.2.1 Cost-intensive samples	I ask whether the department that is formally the owner accepts the request and if not they have to provide the proper arguments (…) it is not worth the research question costs too much of the sample relative to the scientific value. That kind of argument, but just an argument, “I don’t like that guy,” is not enough to deny and is not enough to deny. And there is a formal procedure with the committee and final decision to be made when we don’t come to immediate agreement. (I16)
4.2.2 Lack of scientific knowlege gain	I ask whether the department that is formally the owner accepts the request and if not they have to provide the proper arguments (…) it is not worth the research question costs too much of the sample relative to the scientific value. That kind of argument, but just an argument, “I don’t like that guy,” is not enough to deny and is not enough to deny. And there is a formal procedure with the committee and final decision to be made when we don’t come to immediate agreement. (I16)
4.2.3 Concurrent research interests	Yes we have had this a couple of timest hat a researcher said: No, this is a competing group, they work on similar topics as we, we do not want to give access (I2, translated by the authors)
4.2.4 Samples needed in own projects	But that does mean we ask the gatekeeper: this request is here (…) Are you willing to give access for this project? And often they say, yes, when enough material is there. But it can of course happen that they say: No, I need the samples, because they are scarce ot whatsoever, for my own research (I2, translated by the authors)
4.2.5 Samples are scarce	So one example where I can give you, one example where we have refused is when from a council collection there was a request to use (…) tumor and paired normal. So of course it’s normal tissue but it is paired to the tumor, and so it has a very high value because it is not just normal tissue which could come from an autopsy. It is paired to the tumor. Therefore, for an application and end use which only requires normal tissue and has nothing to do with Tumor research these requests we refused because the samples, they are very rare, they

	have the high value. We would not distribute them for research use. (I11)
5. Ownership	
5.1 Shared ownership	Okay now if there is co-custodianship, so shared custodianship by the PI and the biobank there is agreement that the PI does not expect any, how do you call it, recognition or whatever, because in this case the biobank offers the service to the PI to do all the work for let's say in general just half of the aliquots. Okay so in general the way we function is half of the aliquots belong to the PI okay so then we do all the work, all the service to constitute his collection for his research, so he's very happy with that and the other half of the collection is other, the custodianship of the biobank (I11)
5.2 Donor/Patient	And then the board of directors says, no you cannot take this along, this belongs to the governance of the institute and the owner, and still governance also for the board, the owner is the donor, so the patient can always come back to their material and say I want it back. (I15)
5.3 Contributing researcher	As a biobank we want to make the samples as open access as possible. But we recognize that's quite a challenge. The legal aspect is one thing. Then the other thing is the PI who originated the study. They feel a strong sense of ownership. They have paid us to gather the samples and they view the samples as theirs. And in some sense that is maybe correct. By [national] law they don't own the samples. In fact, by [national] law, I, as the head of the biobank, have the legal responsibility for the samples. (I9)
5.4 Institute/Clinic	Yeah, in the local bio bank we do have veto from the owner which is the head of the department where the specific bio bank specific collection is started. But you realize that there should be well a good arguments to deny request from outside (I16)
5.5 Faculty/University	That is embedded in the patient consent that the material donation is assigned tot he biobank and the biobank in turn belongs tot he faculty. That is, even if the clinicians are not always aware of this fact, when the patient signs this document it belongs tot he biobank, not the clinic. (I6, translated by the authors)
6. Biobank roles: perception and challenges	
6.1 Challenges	
6.1.1 Dilemma faced by biobank heads	
6.1.1.1 Scientific evaluation of internal projects	It is often internal requests (…) and then we do not want to tread on their toes and say „No,

	this request is scientifc invalid“, but we try to consult, until the request is scientific reasonable, but in the end, researchers are free to choose their methods (I6, translated by the authors)
6.1.1.2 Conflicts of interest	So there is, if this conditions are fulfilled the access can only be totally open and completely wide, or the opposite. If there are scientific conflict of interests and we know in many situations where biobanks functions not as entirely independent infrastructures but as part of either academic, hospital laboratories or academic research institutes that are scientific conflicts of interests because the people managing the biobank can have their own research projects and interests. In this case the access becomes more restricted. But this is I think the reason that this explains and that maybe should not exist because by definition a biobank is an infrastructure and should function as an independent infrastructure. (I11)
6.1.1.3 Biobank needs more autonomy	The biobank needs to have some autonomy and not merely being a service provider or handyman and to network and to make larger sample sizes visible , to network, to share, this is central and this is what we need to fight for (I6, translated by the authors)
6.1.2 Competition of research in globalised research environment	Well, I mean, I can understand the colleagues, I think this is human. When a request comes from a scientific group from somewhere else in the world and they compete with your own group, then you are rather reluctant to allow the competitors to use your samples (I19, ranslated by the authors)
6.1.3 Internal projects subject to less rigorous scientific review	Ok we look at the request and that is alwyas the same. I mean, I mentioned the basic scientists, we all know each other very well ok? So you know what kond of research they do but when you get a request from external people, you need to have a closer look ok? (I3, translated by the authors)
6.1.4 Trust building with clinicians necessary	Yes, gatekeepers, but I would say these people that help us to collect samples for the biobank, are very important. (…) They need to be motivated sustainably (…)We as a biobank are not in the operation theatre, so we need a contact point with these institutions, where weg et the samples and also the process before, involvong the patients, we need the support from different people and these people need tob engaged in the sample access (I19, translated by the authors)

6.2 Roles of research biobanks	
6.2.1 ...as facilitator for open science	Yeah, I see the upcoming of bio banks in connection to the general change in policy and in few in culture you might say in, under the rubic of trial data for instance replication, reuse of data, materials, open science, open access, all these what sometimes is called science 3.0 and all these elements contribute to the same idea of in the pre-competitive area we should share our costly materials and share our costly data, whatever possible in order to speed up and make the research more efficient. So maximum use and reuse of data and materials is one driver for an open policy or biobanks as well and in addition biobanks do have the understanding that by definition ,I would say, a biobank is always too small. So every time you approach a biobank you want more data, more materials than are available and that also will help, that also brings you to the idea of let's share, lets merge, let's corporate, let's let's join forces in order to increase the number of samples that are available for specific research questions. (I16)
6.2.2 ...as consultant to improve research projects	If the requestor works with the clinic, then we try not to tread on the toes of these people by saying „No, this request is scientifically invalid". But we try to consult and give scientific advice so that the project improves (I6, translated by the authors)
6.2.3 ...as institution that does research itself	We support researchers within the whole [national organsiation] which is different provinces and then we also support our own researchers within the biobank because we also have scientists who do research (I20)
6.2.4 ...as collector and distributor of data obtained in previous projects	And the other thing that we are actively doing is collecting the information that comes back from those research projects. So there can be a tertiary use of that by people who don't want the samples but want to look at the data to make the results go further. So I think you know this access to samples and then this access to data which is generative in those samples, which I think is where a lot of groups are now starting to move to (I12)
6.2.5 ...as extra service provider (e.g. sophisticated analysis)	We have some smaller companies that ask for access, they want to study antibodies and their reaction to it and that is something we can even perform for them. That is then, what we do. We make arrangements how we can best do the experiment if they want to do that on their own then we can send out tissue slides or blanks and then they can do the experiments. (I15)

6.2.6 ...as basic service provider (primarily storage)	We're just curators really. (I18)
6.2.7 ...quality safeguard (e.g. as certified test laboratory)	It´s an extra service, high quality DNA for instance for our department of human genetics for research purposes. This is a means for biobanks to get a certification and accreditation as a test lab. (I1, translated by the authors)
6.2.8 ...as institution that initiates cooperations (for local researchers)	No I haven't experienced any such case already but the idea is to form partnerships. So, whenever we have a request from outside the first thing is have you made contacts with the local group and did you come to an understanding about what is worthwhile to pursue with respect to the data of this biobank. So, we stimulate partnerships, I mean, that's respect there is a win-win most of the time and sometimes the win is that the department gets payments for the samples and in other issues other instances it's a co-authorship and something the like, but we haven't experienced situations of competition and in general we believe that the samples themselves do not pose real competitive value. We think bio banks in general are in the pre-competitive area of research and we didn't come across much problems with conflicts of interests yet. (I16)
6.2.9 ...as steward of the collection	You know, we are not allowed to just give out a sample and don't know what happens to that. So our company structure is different in that way. (...) That is to protect, you know, because there is also another side to open access is that you need to have a form of protection for the people within. They need to feel safe within the institute, they need to feel safe for having you as a biobank manager that also governs the access for them in a very good way. Because they don't want to have a case where they ask for project money and then they come for the samples, they are not there (I15)
6.3 Strategies	
6.3.1 Public visibility of biobank and databases	But so far we do not have our own internet platform where you can go and have a look how many colon carcinomas, how many blood draws from patients with myocardial infarct do we have. This is the mid-term project in the next two or three years. And this would be best coordinated nationally (I1, translated by the authors)
6.3.2 Same procedures for internal and external applicants	So this has always been very important to us (…) that as a matter of principles, internal and external requests have the same procedures (I6, translated by the authors)

6.3.3 Biobank as gatekeeper	(…) first, we tried to make part of the samples freely accesible. But that was not possible with the gatekeepers. Now we start a project where funding is secure and we get samples from routine care and the biobank itself is the gatekeeper. The president of our university funds it. And in this project we want to collect the very interesting samples for our university with a broad consent (I2, translated by the authors)
6.3.4 Advantages of broad consent	To tell them straight forward that, following our terms and conditions, they do not loose control over the samples. Either you collect study-specific, then it´s yours anyway, but then you pay for it. And that is what many of them do not like. Or you collect with a broad consent. And then the idea is that (…) that you collect via internal service charges for your own institute for a maximum period of three years (I1, translated by the authors)
6.3.5 Moratory for collections of internal researchers	They collect in principle on their own budget and the dean said it is ok for a three years period (…) And the provision is that after three years the samples should be transfered into a third party funding project (…) or they need to release it completely (I1, translated by the authors)
Main Theme B: Compensation	
1. Strategies	
1.1 Tracking of acknowledgements	And I have not done it yet, but then it would become important to have in the material and methods a referral to the biobank with the publication. So that could be the case (…) These demands I have put in the tissue transfer agreement and not everybody keeps to this contract, unfortunately. So you will not always find an acknowledgment or a material methods referral. But it's in the material transfer agreement. (…) Sometimes I ask questions. So the last time I was really overwhelmed so we were talking to the internal oncology department and there is a research unit that deals with breast cancer and they use lots and lots of samples. And I asked you know, what kind of publications do you have, you know, involving the samples of our biobank. And they said all of them. And then they also said you can use them you know to refer to it if questions are asked. And then you go have a look at the impact factor and then you are really overwhelmed. But to do this for all users of the biobank that would way too much. We tried that once to do that and it costs so much time and a lot of people just don't answer. And it's too difficult. So for us, I think there is no BRIF.

	(I15)
1.2 Biobank impact factor	Yeah, but the impact factor will probably not be personal but be related to the biobank (…) It's not yet the case but in future I would expect that successful bio banks would compete with each other (…) not the researchers themselves but the institutional biobanks would compete with each other by the number of the BRIF (…) and that helps because authorship is not always possible (…) authorship doesn't always shift in the requirements of the journals if you just deliver the samples and (…) do not have partnership. And as we try to accomplish but that's not always the case. And then authorship formally is not accepted and not allowed just by delivering materials. (I16)
1.3 Profit sharing	And what is planned now is (…) if we give material to external partners or to pharma and biotech, that the clinic which collected the material will get 50% of the revenue. One half the biobank, one half the clinic and that could be attractive fort he clinics to collect and store within the biobank and especially this kind of material that is desired externally (I6, translated by the authors)
1.4 Benefit sharing for patients	(…) we have also discussed the issue of benefit sharing and how the patient or the participants in collection can receive any benefits from this. (…) I don't want to be negative with academic research but in general the output of academic research is a paper publication. So then from the outcome of academic research we can only argue about the general benefit for the future generations. (…) if it's a request coming from industry then there is much more chance that there is a practical application, either a diagnostic kit or pharmaceutical product or, you know, a new method that is validated and that would be applied and in the real everyday life and there can be a direct benefit, practical benefit to the population. So in this case we have tried (…) a clause where the local hospital from which the patients have been recruited, the samples have been collected that there is for example a limited license maybe for a certain period of time, for the use of the product, the diagnostic kit or pharmaceutical (…) (I11)
1.5 Co-authorship	
1.5.1 Compensation for collecting actors when material is used by others	I think one reaseon why it works so well for us, we have the clinics whose interests are considered substantially. They get listed in publications that used their samples (…) But those, who did the collecting, they get recognized in these (I3, translated by the authors)

1.5.2 Sanctioning non-compliance	Well most places when you publish a paper insist that you say where something has come from. But there are few journals that don't do that. If somebody does not acknowledge us we would think twice about giving them more samples if they applied again (I12)
1.5.3 Acknowledgement of biobank as honorarium for good work	I don't think you should get academic recognition in terms of say being an author on a paper if you've had nothing to do with the intellectual side of that paper. But (…) the bio bank itself would get mentioned in the methods and it would probably get mentioned in the management in terms of managing the bank and the [donors] that donated samples to the bank. (I18)
1.5.4 No co-authorship or other compensation for clinician	Okay. Having a collection is not enough for being a co-author. So you need to really have some intellectual contribution to the science that was performed. And then most of the times they say, okay you are the co-author because you have contributed this or that. But having a collection itself is not something that suffices for a co-authorship. We do ask for acknowledgment in articles and then they only need to say the name of the [biobank] in the acknowledgment or in the material methods. However this is becoming more and more important for quality reasons, so it's a sort of metadata with the sample if you know where the samples are coming from. So my methods are published and so the collection method is published and it's important that there is some kind of referral (I15)
1.5.5 Publications most important output	In the end the output, let´s say the return on investment, it´s publications. You publish together. Scientists all over Europe plus the biobanks involved. And of course if it is such very rare issues, that you can only manage together, then you get a high ranked publication I would think. And then all are winners (I1, translated by the authors)
1.5.6 Always engage local researchers	We try not to exaggerate that. So, there is no automation in the fact that me for instance should be on all publications. I am not at all on that (…) well there are two things: We encourage that always a local researcher could be involved in the project, which could make sense in many ways. First of all it makes sense, because then it is easier for the external research group to find their way around to have an internal expert. (I8)
1.5.7 Only acknowledgement required	Right, so we ask for acknowledgement in any papers. We give a form of words (…) you know, "sample was supplied by the [biobank]". We do not feel it is appropriate to ask for co-authorship unless somebody has been very actively involved in the research part of it or helping write up. But I mean acknowledgement, we feel is important, but a lot of people get very precious about co-authorship and ask for co-authorship, you know, for doing very little.

	You know, it is not appropriate. We were set up as a resource to facilitate research, not actually do research ourselves. So we need to function as a resource, not as a researcher. (I7)
1.5.8 Tracking of publications	That's another area where we have not been very active. We don't take in the results here, we don't store them centrally (…) That's another thing that we have on our shopping list, if you like (…) Generally only publications. Actually most of them give us their publication lists, we have to keep reminding them. (I9)
1.5.9 Co-authorship requires scientific contribution	And they (…) are almost in every case very happy for that. And would then, if this person contributes scientifically, then we would say that he should or she should probably offered a co-authorship. But only if it is payed by the banker rules. Sometimes when people ask for request to let's say diabetes data, where there is a diabetes research group with a PI that has been 20 years of his life to organize this, follow up and prepare data, then it is obvious that he would be offered a co-authorship. (I8)
1.5.10 Mandatory co-authorship	We think that it is fair to give people who collect the samples a share in the publications. And this is a concept that works very well, because every clinican and myself, I am happy when other researchers work on interesting projects with these samples. You wish to be engaged in it. So that means, generally a co-authorship, but that means that you really need to work a liitle on the manuscript. In general it is like this, there need to be given some information on the patients or the collection and assistance with interpretation (I3, translated by the authors)
2 Financial aspects of sample access	
2.1 Difficulty of periodic funding	I forgot in what town it was. One of the large (…) universities that had a biobank. (…) But they had to close the biobank which was very sad because the people invested a lot of effort and time to collect the samples and the (…) government stopped supporting it and they had to close the biobank or to try to sell it to the private sector or something like that (…) each country has their own policy and the government can change and today they want to support and then because man changes and the new minister of science says it's not important enough. So it's a big problem. It's not a simple problem. I don't know, maybe there should be some consortium biobank, so if the biobank is going to fail and cannot support its own activities, there will be some network to support, some emergency funding, I don't know. But I am not in economics so this is something to discuss with business people,

	to give some ideas to governments how to form a network that can support it. (I14)
2.2 Sufficiency of funding	If I make costs that are not covered, I need to also calculate this price, the surplus price to an [internal] scientist. I hope this day never comes. (I15)
2.3 Baseline financing by faculty	The salary costs are covered by a block ground from the organization (…) and the tissue bank is funded by (…) money that we get from the government. (I12)
2.4. Cost recovery	But (…) we got running costs and training costs and things like that. So we offer services on material, for example DNA extraction or RNA extraction or cutting sections, and we charge researches for that. And then that generates enough income for us to cover, you know replacing freezers or training costs or buying reagents. (I12)
2.4.1 Pricing according to the effort needed to store	Sure, then I have a very valid reason to say, “Dear researcher, that this sample is now in my biobank has cost me lots of ressources and then the reimbursement that I wish for this is higher than for such samples that did not needed these ressources (I19, translated by the authors)
2.4.2 Pricing in comparison to other	But it's better than nothing and to calculate how much to charge for samples this was done many years ago, but I looked at major biobanks (…) when we started in [year] (…) we looked how much they charge and we decided to charge a little below that, because we are not so famous. But I looked at what major biobanks were charging at the time (I14)
2.4.3 Raising of cost-recovery fees for requesting researchers	So it depends how many they want and how much they want. So they pay, they basically pay for what we call sustainability of the bank. And that money pays for the freezer, you know, freezer insurance, for the power, for keeping the freezers going, for the websites, all the bits and pieces that goes together with running the bank but obviously we are not collecting anymore so that’s done by one person two days a week. (I18)
2.4.4 Access is free of charge	Well, yes and no. Ok we implemented a scale of fees a couple of years ago, but we actually never made use of it, only sporadic. So because in most cases or even always local researchers are involved, we de facto forewent to scale fees (I13, translated by the authors)
2.4.5 Need to increase prices	We have a list of a handful of ideas. We are going to be increasing our fees. We already charge fees but we are going to probably put them up by at least 20 percent already at the

	end of this year. (I19)
2.4.6 No increase of the fee over time	So I noticed that they keep increasing the fees all the time. But we did not change them from the start. (I14)
2.4.7 Charge per publication	And also researchers that are not requesting samples but maybe access to data, we have a fee per publication. I don't know how fair it is, but usually it works pretty well, because if you want to have access to data or samples, you are going to write this paper. So we will charge them per paper. And the upside of that is that they will most probably write that paper, because they have already paid for it. So that is to ensure that data handed out is really used for the purpose all initially decided. (I8)
2.4.8 Pricing depends on scarcity of material	But then, after ten years of biobanking, we realized that there are some samples you do not know if they are ever being needed and requested. For other samples, the demand is higher. And that´s why you need to consider this in the allowance, because it is like this, the workload for some samples will never be compensated. (I4, translated by the authors)
2.4.9 Prices are subsidized	Then we have the researchers affiliated with the faculty, if they require material from the clinics, they need to pay for it. Even myself, I have a research group and I need to pay for the material from the biobank just like other colleagues, but it is a subsidized price, subsidized by the faculty (I6, translated by the authors)
2.4.10 Prices for "older" samples cannot be fully covered	Let´s say the samples are stored for 50 years, so the tube is only once, but there are running costs fort he freezers. And the question is, if you can from an ethics of science perspective add this to the price of a sample. Because it was 100 years in the freezer, now it is exorbitant expensive (I1, translated by the authors)
2.4.11 Biobank does not recover costs	So, yes, it is public-funded. But there was always the expectation that we would cost recover to try and get money back in. I mean it has been a disappointment I think, the level of access that has been requested. I think it was assumed that there would be a much higher usage of the samples than there actually has been which is obviously not quantified with the amount of cost recovery that can come back in. And so, no, I mean we don't recover our costs (I7)
2.4.12 No profit allowed	You know, they are giving us their samples for research not for us to make profits. So, I think that's another important stakeholder (…) it's actually the donors themselves. (…) So that's, you know, that's another aspect to it. (I17)

2.5 External versus internal access requests	
2.5.1 Owner/collector of the material doesn't pay	For the contributing clinics, the material is free when they want it back (I6, translated by the authors)
2.5.2 Lower prices for local researchers	Well, when the government and the university and the faculty build for us this biobank, then to me it is quite a matter of course (…) then I need to try to make as cheap a possible for internal researchers (I3, translated by the authors)
2.5.3 Prices different for external researchers	(…) for instance we discriminate between external and internal projects in the biobank. External projects have a different cost calculation than internal projects. (I8)
2.5.4 Competitive prices for industry	We charge them the same. We make one difference in pricing. For all academic researchers it's the same price. For industrial or commercial customers, there our idea is charging double price. (I9)
2.5.5 Prices do not discriminate internal/external	We charge them the same. We make one difference in pricing. For all academic researchers it's the same price. For industrial or commercial customers, there our idea is charging double price. (I9)
Main Theme C: Prioritization and sample values	
1. Challenge of prioritization	
1.1.Sometimes material runs short	And then sometimes, material runs short. That´s not quite often but sometimes it happens. (I3, translated by the authors)
1.2 Keeping samples driven by self-interest	It's great to say we want to have this as a resource for our grandchildren and their grandchildren. I definitely want that. For me most important is that they get used now for research that improves public health. And if that means using them up now that's okay. Now I need to let you know, the background of that is: our biobank is essentially blood. We have other body fluids but it's not tissues. We don't have tissues from tumors where there really maybe very little material. In those cases I can see that your question is less hypothetical, its maybe more real. But even then, my impression from looking at the tissue-biobank-world is that it's been very, very protective. People have used all sorts of reasons to deny access to tissues and I don't think that's been done in a very objective way. I think it's driven by fear or by - what do you call it? - self-interest. People wanting to keep the samples for themselves. (I9)

1.3 In theory important	I think it is possible. So, ok, there are types of material that are more demanded than others. (I6, translated by the authors)
1.4 Not yet necessary	Okay. You have asked me a very hypothetical question and I don't have an answer. That situation has never arisen for us. (I9)
2. Strategies to avoid priority-setting decisions	
2.1 Building new collections	I wouldn't say that after ten years the collections are losing their value but if you have a high utilization rate of your cohorts then you are probably motivated to install a new cohort with the modern techniques and modern data. (I16)
2.2 Storing smaller units	When we started out in [year] there were vials which were the size of ten millilitres and they were stored in liquid nitrogen. We found that a lot of space was wasted in this way, so we decided to go on with smaller vials that could catch only three millilitres. But then we needed to size down the original sample into smaller aliquots. And then you have this freedom to serve many more projects than only one. (I15)
2.3 Cooperation	And we had examples with these two groups looking at the same questions regarding diabetes. And I think we (…) have always tried to govern this so that we do not hand out samples to research groups having identical protocols without informing of some sort. Because then we will certainly risk that they pay for access, they work for the data and then they file for a publication, they could be refused published in the high ranked journal because another group (…) has already done that. And we feel that is not fair. But some other biobanks would not care. And if we are talking about thousands of projects, we have about 300 ongoing projects all the time, it is in your data. And of course it is difficult to keep track of everything and make sure that there is no conflict of interest. But (…) basically in this specific case, special case, we (…) did not see (…) that there was a conflict there and they were aiming at the same publication. And one of the other groups realized that, one of the two groups. And we brought them together and asked if they could collaborate on this study. Which they did. (I8)
2.4 Continuous sampling	(…) what bothers me even more is that the samples actually go out. Because there is this fear that when you give out the samples, then they are gone forever. And what we really try to establish is that we have a continuous collection, that is, even if we right now prefer project A it will not take long for us to provide enough samples for project B. And I believe this needs to grow, that it is not like a wine cellar, where you store for uncertain time,

	hoping that the quality will increase, but that the samples are needed or used in research projects, and that they are then generated again. And that's a bit of our strategy or our vision (I10, translated by the authors)
2.5 Increase volume of samples	It is not always easy to decide on that. And for us, that means that (…) that I increase the volume of what is collected in the ongoimg studies (I3, translated by the authors)
2.6 Spare access	So, we worry less about giving out DNA. If it's a serum or urine and we've only got a finite amount those are probably more precious and so we think carefully about how much we give out. I would like to say that we must always, you know, we should be in a situation in five years where we have half of all the samples remaining (…) you know, these banks have a life, you know, there will be some new easy way of collecting samples in five years time and no one will want to use samples that were collected in this way. So, but let's say it needs to last for five years I don't want to be running out of anything in five years time. I want to have some left so that we can still do some research after that time (I18)
2.7 National harmonization and coordination	I think, one aspect is that for biobanks, especially in the context of rare diseases, networking essential. And that means, that probably certain diagnosises are controlled (…) multicentral by the profesisonal socienties and the disciplines (I10, translated by the authors)
2.8 Technical	
2.8.1 Releasing redundant aliquots first	On the other hand, we also have redundant samples for certain cases or sample types. And then we try to give away such samples first, where redundant aliquots exist (I4, translated by the authors)
2.8.2 Enhance technical possibilities and methods	The most optimal solution would be, to try to adjust the different [technical] approaches to each other, so that maybe two research projects can be done with one sample. (I4, translated by the authors)
2.8.3 Centralized data bank for open use	You should try to central registries for huge disease areas such as cancer, in order to be able to serve smaller collections that are rather rare (I4, translated by the authors)
3. Future perspectives	
3.1 There is no need for prioritization	In fact I believe that the opposite risk is much higher that the samples are underused and that the bio banks are not utilized as they could do, could utilize and that in my opinion that's actually much larger risk. (I16)

3.2 Prioritization is an important upcoming issue	I don't think we're alone with that. I have had that conversation with several people that run similar resources in the UK and it is, you know (…) when is technology at the point where it's not going to get any better, we won't be able to get anything else outside of that samples. (I17)
3.3 Increasing need to prioritize desirable	I don't want to say that prioritizing is not important but the main problem is not that today biobanks are getting so many requests and their main problem is the prioritization. Unfortunately, and this would be very nice if it was the case but it is not the case. Unfortunately, the challenge is that most of the requests cannot be satisfied from stocks. So yeah we would like to have this problem but the reality is different. (I11)
3.4 Need to prioritize will increase in future	This will happen definitively, I think so. (I2)
4. Criteria for prioritization	
4.1 Researcher-related	
4.1.1 Incentives given by requestor (e.g. gifts)	So we got a project for instance, where we were provided [by the requesting researchers] with a certain diagnostic test kit (…) and this marker is not routinely tested by us. And then we initiated this campaign. Each donor (…) was provided such a test for free (I5, translated by the authors)
4.1.2 Chance for long-term cooperation	When someone says he is willing to cooperate fort en years or so and I have a certain foresight, this will weigh more, certainly (…) So, a long term cooperation is a criterion (I5, translated by the authors)
4.1.3 Qualification/former projects of requesting researchers	While this question is important for tissue biobanks. The tissue is going to finish and you must prioritize it for the best studies. And then you have to check credits of the researcher and see that it is a good research team and so on and not just waste the samples for some stupid projects. (I14)
4.1.4 Financial resources of PI	Yes, it is a difference if I give the sample to a big third party funded project, where potentially lots of money comes in and where I think the study design is innovative and it will probably be published high or is it a smaller study, that also may have its value, but where you can foresee that this will not be that top-class (I3, translated by the authors)
4.1.5 Local researchers get priority	And we do actually go down the steps and the very bottom one is: Is it a local researcher or not? Because (…) all our funding is local government funding, then it would be the

	expectation of the local researchers. If everything else is equal to that point, then it would be the local researcher (I7)
4.1.6 Involvement of local institution	Then the strategic relevance, what is the involvement of [this biobank in this project], does [this biobank] play a role or not? This will be the crucial criteria. So I think that when two similar projects are planned, one is a multicenter study involving [this biobank] and one does not involve, then the decision will be relatively easy (I10, translated by the authors)
4.1.7 Capacity (including infrastructure) of the requiring person	Then the lab that requests the tissues must also be able to perform the work because otherwise we also have questions. If you cannot perform the work appropriately, then you cannot actually get the samples. (I15)
4.2 Sample-related	
4.2.1 Projects with higher number of cases preferred	(…) and then you have a closer look, whats the scientific rigor of this project. So you can imagine, for smaller projetcs you also need a reference cohort ok? So when I have 20 patients and I need 20 controls and we have 1000 people, then I try to give these samples in really bigger projects and with a higher scientific value (I3, translated by the authors)
4.2.2 Rare samples allocated more generously	And if we get requests for samples on a rare cancer, pancreatic cancer or you know, very rare cancers, to me it makes sense to contribute more generously. Because this is a sort of sample that cannot be used for any other disease category (I8)
4.2.3 Small quantity access prioritized	You also have to look at sometimes the amount of specimens needed. If the researcher needs less specimen then the first researcher needs less specimen than the second researcher so you give some of the specimens to (…) the one who needs less. The other one if he needs more and we still probably have to collect or get more specimens then you will actually have to prioritize the one who can be able to save this immediately. (I20)
4.3 Impact for society	What is the impact fort he society? (I2, translated by the authors)
4.4 Scientific	
4.4.1 Prospect of high-ranked publication	Yes. And they are maybe also familiar with this discussion on biobanking impact factors. And that makes sense to some extent. Only if we can put on our web that now this year so many research groups have used samples from [this biobank] published in high, very high ranked journals, that helps. (I8)

4.4.2 Innovative study design	Is the research question really innovative? (I2, translated by the authors)
4.4.3 Quality of proposal	Yes, very very imortant, always the quality oft he project. Is it innovative? Is it useful? Is it feasible? (I2, translated by the authors)
4.4.4 Scientific value	The only one I can imagine (…) are some ways of evaluating the scientific quality of the proposal. You could possibly argue that even beyond that you could try and make a rational evaluation of the likely impact of the research that is being proposed. Within the impact you could do some kind of health economic analysis. I think it's a tricky question. I think they are generally still rather hypothetical. (I9)
4.4.5 General promise of proposal	So what is abput feasibility, what about finances, how likely is to generate output? (I10, translated by the authors)
4.4.6 Objectives	We look at the scientific question, whether it is an appropriate on. (I15)
4.4.7 Diagnostic testing has priority	And that is why we made the sequence of kind of requests. So we have for instances diagnostic requests are the top priority, there are no questions asked and given out immediately. (I15)
4.5 Rotation of approvals	We kind of work on a rota system in that the sample number one comes in, we ring you first, if you want it, fine. If you don't, we ring the next person and if they want it. But then the next time, the next sample comes in we ring person number two first, so that everybody has a chance the first refusal answered (I7)
4.6 First-Come-First-Serve	Yeah, okay I mean the answer is simple, is we do not prioritize, it's first come, first serve. (I11)
4.7 Accordance with biobank charter goals (e.g. disease-specific)	But researchers anywhere in the world, as long as they are working (…) cancer-related research, because that is what our ethics allows us to give deemed ethics approval for as cancer-related work. So, as long as it is cancer-related researches from pharma or biotech or academia outside of our own institutions can apply (I7)
4.8 Promise to share data	So that is maybe another issue that has been dicussed often, how many data should be returned ot the biobank. Then you could maybe reach the highest value if you try to generate data that can be used by more scientists. (I4, translated by the authors)
5 Sample value	
5.1 Selective collection of valuable samples	But in general I would say the exceptional patients these are the stars in your academic hospitals and that you would certainly include into your biobanks and maybe not the

	standard patients with just an inguinial hernia or a simple operation. These are not for future research and you wouldn't make a mistake to include all these standard patients in your biobanks. Focus on the interesting, focus where we are still puzzling about what's happening. That was my idea. So you can make the biobanks more profitable by being selective in the inclusion of your patient. (I16)
5.2 Sample itself has no value, usage is key	So we don't regard any samples as higher value than another sample. (…) It takes the use to which the sample is put that is judged as valuable (…) because you can have a value on a sample but if nobody ever uses it it's not valuable. So I think you have to look at the science of the project and say is that a good project, is that going to advance our understanding. If it is then samples should be released. And, you know, there may be quite rare samples but if you don't release large chunks of tissue and release derivatives you can look after 20, 30 projects. And to be honest for things like thyroid cancer that's probably all you're going to get. You're not going to get loads of people looking at it. So again value is only what people are prepared to play and if it doesn't get used it's not valuable at all. (I12)
5.3 The more data connected, the more scarce are samples	So the samples by itself are worthless. They get important with the existing data, what kind of information is available? (I2, translated by the authors)
5.4 Likelihood of usage	(…) rare diseases that is a bit strange, at least I think that way, in the research world the rarer a disease, you would say it is a very important sample, but these rare diseases are hardly used for research. (I15)
5.5. Pharma research and development	When you think of pharma industry, in the field of drug development, where pharma or biotech are in dire need of such material (I6, translated by the authors)
5.6 Rare samples higher value	The ones I regard of higher values are the rare specimens depending on the rare diseases. (…) So, we have some of the specimens that are difficult to get depending on the disease. (I20)
5.7 Follow-up makes samples more valuable	Because also the value of our samples has grown over the 25 years because they are linked to a lot of longitudinal data, huge amounts of longitudinal data which makes them more valuable now than they were 25 years ago if you see what I mean. So, I think that's a challenge which is a challenge that's probably unique for longitudinal studies. (I17)
5.8 Broad access is important	So in principle you can do more with the one sample than with the other. But for the moment, we have enough capacities and for a biobank that is generously financed (…) it is

	important that you can prove a broad usage of your material (I3, translated by the auhors)
5.9 Sample value increases over time	Collections that are build over years, together with clinical data, they get more valuable, because you can serve even more complex requests (I6, translated by the authors)
5.10 Certain amount of samples should not be used for the first few years	So what I think is useful, that you put 20 to 25 percent on hold, at least, and don´t use them before the fifth year. (I3, translated by the authors)
5.11 Special treatment in the follow-up period	So that is in cases with a very long follow up for instance (…) or special therapy constellations during the follow up (I4, translated by the authors)
5.12 Indications that are requested more frequently	So first of all indications, those indications that are requested the most are the most expensive. (I5, translated by the authors)
5.13 Sample was taken a short time before disease appearance	We have serial samples and the sample that was collected closest to diagnosis is the most expensive (I5, translated by the authors)
5.14 Linked data and samples more valuable for research	Because also the value of our samples has grown over the 25 years because they are linked to a lot of longitudinal data, huge amounts of longitudinal data which makes them more valuable now than they were 25 years ago if you see what I mean. (I17)