

Supplementary Table 1: Selected quotes based on study themes derived from thematic analysis

Theme	Selected quotes
Decisional considerations of undertaking genetic testing: perceived benefits and motivators	<p>“For me, one of my major concerns is whether the genetic diagnosis would impact clinical management” (<i>son of hereditary cancer patient P11</i>)</p>
	<p>“For example, to explore about the disease diagnosis and plan for the next steps in life. And this is very important as we were very lost prior to being diagnosed.” (<i>father of rare disease patient P2</i>)</p>
	<p>“Perhaps there is not much help for my son, but I believe eventually, one day, it will benefit many children, I mean our next, next, next generations.” (<i>mother of rare disease patient P5</i>)</p>
	<p>“I think since my kid is affected already, why don’t we contribute to the society or the world? I believe it (WGS testing) has its purpose. Well, let me tell you frankly, at this moment even if a pharmaceutical company could identify a drug for my daughter, it must go through phase 1, phase 2, phase 3 trials, you can foresee that. My daughter is a grown up now, the reason for us to advocate that much is obviously not simply for my daughter. I hope that there is something we can do to contribute to the world.” (<i>father of rare disease patient P3</i>)</p>
	<p>“Well if I contribute my DNA for (WGS) sequence, or my body tissues (samples), I hope that I will be able to help other people in the future, and I believe all patients are willing to do so.” (<i>hereditary cancer patient P10</i>)</p>
	<p>“Well if you ask me, we should have done this much earlier... as WGS helps the society a lot, this is a very effective tool... currently if you send the patient to a hospital to look for the underlying reason, many of the times the doctors will not be able to give you an answer, because they have no tools. But if you set up this genomic database, the doctors will have the platform, then at least he will be able to investigate what is going on with the patient. This also saves a lot of societal resources.” (<i>father of rare disease patient P3</i>)</p>
	<p>“I think that it is always good to have one more set of data, if everyone refuses to join, if you are not willing to accept it, then we will never be able to contribute to scientific advancement.” (<i>patient with undiagnosed disease P1</i>)</p>
	<p>“I support my mother to undergo testing as it didn’t only give her an answer (why cancer was running in her family), but it could also help the Chinese population, and the world to understand this syndrome better.” (<i>son of a female patient with hereditary breast and ovarian cancer syndrome P11</i>)</p>
	<p>“Our initial intention as doctors is to diagnose. (...) At least most of the patients and families feel relieved when there is a genetic diagnosis (...) I guess most of them would like to know what condition they are suffering from, because some of them lived with it for over 30 years without knowing what it is.” (<i>clinical geneticist P18</i>)</p>
<p>“Even when there is no cure it is important to have a diagnosis. (...) in many of our adult patients, the diagnosis actually helped to avoid unnecessary investigations and follow-ups, which is beneficial I believe, to both the general public and health system in terms of saving resources.” (<i>medical specialist P16</i>)</p>	
Concerns and worries: personal,	<p>“If I went to test when I was 18 and found out that I’ve got a disease that will present when I am in my 40s, what am I going to do in the upcoming 30 years?” (<i>son of hereditary cancer patient P11</i>)</p>

<p>familial, and societal concerns</p>	<p>“To be honest, I think it doesn’t really matter if it is just for myself, because you agreed and gave consent, and you wanted to know the answer. But at the end, my family did the test too. So what did the test bring them into? Well... my mum was very worried. As in, she might have been okay initially, but what if you found something wrong? What should we do? No one could answer us this question.” (<i>undiagnosed disease patient P8</i>)</p>
	<p>“Let’s say if I did WGS at 20 years old and found out that I have many problems, so in my future life, I may need to make decisions such as whether to get married and have kids. It feels like I am carrying bombs around. How can I get through it? This is something I am very worried about.” (<i>hereditary cancer patient P10</i>)</p>
	<p>“How would I know who is in charge of this genomic research project? And I would think, whether that person would collect our genetic data for personal use or to conduct another research study? Like I don’t know, is there a way I will be notified when someone accesses my data? Such as having an alert on my phone?” (<i>mother of rare disease patient P6</i>)</p>
	<p>“When I first heard about this (project), that we are building a genomic database, a genomic database for the Hong Kong population, my first thought was about data privacy issues.” (<i>hereditary cancer patient P10</i>)</p>
	<p>“You have to be transparent, otherwise people will not understand what you are trying to do in your project. If you hide the data, and if the participants are not able to find answers from the project’s website, then people will start to make guesses.” (<i>clinical geneticist P15</i>)</p>
	<p>“I think the biggest concern among patients and families is how are they protected. That’s their genomic data, of course they would like to know how they are protected. So if that paragraph (paragraph on patients’ rights in the information booklet) includes more information in this area, with the details clearly written, then they will have less things to be worried about.” (<i>clinical geneticist P14</i>)</p>
<p>A Quest for a patient-oriented, transparent, and dec commercialized whole-genome sequencing campaign</p>	<p>“In this generation, do we still need celebrities, so-called celebrities, to be ambassadors? Doctors can be (ambassadors). And would it be possible to find someone, who are not necessarily famous, but someone who carries a meaning, a meaning that will stand out. Because I think, this idea (celebrities) really does not work (in promoting HKGP), frankly speaking, I think it is a waste of money.” (<i>hereditary cancer patient P10</i>)</p>
	<p>“That is to say, I think there is no benefit to use an artist for this campaign. Things will look fake and commercialized. (...) Because artists give people an impression of commercialization, and when this becomes commercial... since this (HKGP) has an ambitious mission, as soon as you use an artist to speak about it, you just have a feeling of “wow how much do you charge for this advertisement?” (<i>hereditary cancer patient P10</i>)</p>
	<p>“We must find someone who is relevant (to be the ambassador). That is, he/she must have experienced it. Then, as an audience, when I see someone who has experienced this to talk about this matter, even if I don’t know this person, I will trust him/her because of his/her experience.” (<i>hereditary cancer patient P10</i>)</p>
	<p>“In fact I think if you need to find one (ambassador), if it is necessary... like if you want to target a certain issue I think you need to find someone who is relevant. Because if the host or somebody (i.e. patients and caregivers) questions you (at a seminar/talk), and if you can’t answer the question, it</p>

	<p>becomes rather embarrassing. As in, if you don't even know about it (genetic diseases), how do you understand me? Like sorry, first of all, if I sit here to listen, I think I will be more willing to listen to you if you understand what I am going through." (<i>undiagnosed disease patient P8</i>)</p>
	<p>"In fact I think we should just be straightforward and find a patient (to be the ambassador). I would know that it was a genetic disease at a glance. It was simple, straightforward, and had an even more profound impression." (<i>father of rare disease patient P3</i>)</p>
	<p>"I would think, it would be much powerful if you use a real case." (<i>father of hereditary cancer patient P9</i>)</p>
	<p>"This (campaign) needs to be very serious, so I guess public promotion cannot be too entertaining. That is, it is not a plan to entertain the public, it's just that you want to call for an iconic person, (...) so that people will know about this. But this person must be politically neutral." (<i>clinical geneticist P14</i>)</p>
<p>Communicating genomics efficaciously: importance of informational support and literacy enhancement</p>	<p>"Well I think the main reason why it (the diagnosis) was delayed, or "wrong", was due to the lack of genomic education. Be it to the public, or to us doctors, if we are more educated (in genomic medicine) then this will be improved." (<i>clinical geneticist P18</i>)</p>
	<p>"Even if you ask people who are educated, there aren't many of them who can tell you what is "Human Genome Project"." (<i>clinical geneticist P15</i>)</p>
	<p>"Honestly speaking, whether it is in Hong Kong or in Mainland China, majority of the doctors have never seen, and have never heard of it (the specific hereditary disease). Well, he/she can't help, and you can't blame him/her." (<i>rare disease patient P3</i>)</p>
	<p>"I need to use a medical dictionary to identify the jargons. I need to spend a lot of time to read and to understand one journal (one paper), because I have to simultaneously read and look up for the definitions from the dictionary..." (<i>rare disease patient P5</i>)</p>