Supplemental Table 1 The analysis process of Family doctors from the interviews

Themes	Associated Sub-themes	Example of Verbatim Transcript
Differences	Health demands (25/30)	".....disabled older adults have greater health demands, particularly in the areas of Medicare and Medicaid....." (Family doctor, N7)
	Service content (20/30)	".....Disabled older adults usually have trouble moving, so we have to provide home-visiting service for them....." (Family doctor, N5)
	Level of humanistic care (17/30)	".....Most of disabled old adults are rely on their families, they have little opportunity to communicate with others and receive less social support.....Family doctors should have more communication with the disabled older adults via WeChat or telephone, understand their physical and psychological conditions, and give them more empathetic care....." (Family doctor, N30)
	Personal energy input (15/30)	".....Compared with the contracted healthy senior citizen, we need invest more energy and time to provide care for the disabled older adults. For senior patients who are well, the diagnosis takes around 10 minutes, while the home visits we offer to those who are incapacitated take at least an hour....." (Family doctor, N13)
	Medical resources input (8/30)	".....The disabled old adults occupy more human and medical resources than contracted healthy elderly, especially the facilities and tools of diagnosis and treatment for home visits service....." (Family doctor, N21)
	Level of service difficulty and risks (7/30)	".....Care services for disabled older adults are more difficult due to their complex physical condition. Besides, as risk of home visits service is high, some professional services cannot be offered at the disabled older adults' home....." (Family doctor, N23)
Facilitators	Establishing doctor-patient trust relationship (24/30)	".....Through FDCS, I can have a good understanding of the status of the disabled older adults and their families, and give some direct guidance on diet and medication of the disabled older adults.....the relationship between Family doctors and the disabled older adults is close....." (Family doctor, N17)
	Improving the health knowledge of the disabled old adults and their families (20/30)	"..... Family doctors will regularly hold regular lectures on health knowledge for the disabled older adults and their families, and we will teach some nursing skills for them to deal with emergencies....." (Family doctor, N9)
	Improve the frequency of communication between doctors and the disabled old adults (18/30)	".....Except for telephone follow-up, I have added patients' WeChat through which I could ask their physical and mental conditions every day....." (Family doctor, N25)
	Lightening the financial burden of the disabled old adults and	".....The disabled older adults and their families bear a huge economic and emotional burden, FDCS can

	their families (16/30)	greatly solve the problems of the disabled older adults and their families, facilitate their lives and relieve their economic pressure.....” (Family doctor, N16)
	Developing humanistic care services (13/30)	“.....The disabled older adults have no the ability to look after themselves and lack the initiative to manage their own health, so as Family doctors, we should pay more attention on them and provide more humanistic care services, such as psychological counseling.....” (Family doctor, N6)
	Improve the efficiency of medical resources (9/30)	“.....FDCS has greatly eased the pressure of local hospitals. Through home visits services, most of the medical needs of the disabled older adults can be met, and the waste of medical resources can be avoided.....” (Family doctor, N24)
Barriers	Short of hands (23/30)	“.....The staff shortage of Family doctor team is a thorny problem. If the salary is not properly distributed, human resources will be insufficient.....” (Family doctor, N5)
	High risks of home visits service (17/30)	“.....There are many risks on home visits service. Whether we go to the homes of the disabled old adults or conduct home visiting service in their home, we are faced with many threats.....” (Family doctor, N2)
	Lack of continuity in FDCS (15/30)	“.....The FDCS just sustain one year, the contractual relationship between Family doctors and the disabled older adults is not very close, some disabled older adults people who I am responsible for them this year, but I may not manage their health next year. The continuity of FDCS cannot be effectively guaranteed.....” (Family doctor, N17)
	Lack of government policy support (11/30)	“.....FDCS lack the support of government policy, and the medical resources in Beijing are unevenly distributed.....our CHC lack basic inspection facilities, which brings a lot of inconvenience to conduct Family doctor contract services.....” (Family doctor, N8)
	Poor compliance of the disabled old adults and their families (8/30)	“..... Most of the disabled older adults and their family are very cooperative with our work, but some patients will put forward additional requirements beyond the scope of FDCS, which are hard to meet. So there are some complaints from the disabled older adults and their families.....” (Family doctor, N11)
	Lack of supervisory and incentive policies for Family doctors (5/30)	“..... Our Family doctor team does not have a supervision and incentive policy.....My contribution is not directly proportional to my income, and most of the services for the disabled older adults are promoted by my responsibility.....” (Family doctor, N3)
	Insufficient publicity of FDCS (4/30)	“.....The propagation intensity of FDCS is a long way to go, many the disabled older adults and their families misunderstand our work, which has brought a lot of troubles to Family doctors.....” (Family doctor, N19)
	Shift more care responsibility on Family doctors (3/30)	“.....The family members of the disabled older adults believe that Family doctors should take responsible

to the health of the senior. With my help, they pay less attention to the elderly, trying to evade their care responsibilities. Sometimes I feel like I'm being filial to the disabled older adults.....” (Family doctor, N10)