Postprint: Practice and Reflection on the Diabetes "1358 Model" Based on General-Specialty Precision Management

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Abstract

Background: Currently, community diabetes diagnosis and treatment capabilities are suboptimal, characterized by low rates of complication screening, standardized blood glucose monitoring, and blood glucose target achievement. These challenges and priority issues require consideration and resolution by general practitioners in diabetes health management. To transform general practitioners into specialized physicians within general practice and achieve "integrated general-specialty precision management," it is necessary to explore and innovate standardized diabetes management models in the community.

Objective: To explore a diabetes health service model suitable for community implementation, accessible, and replicable, as well as regional collaborative pathways and integrated general-specialty development strategies based on "integrated general-specialty precision management."

Methods: A total of 212 outpatient diabetes cases from May to July 2020 were selected and randomly divided into two groups of 106 cases each. The observation group received strengthened health belief interventions, applied the "1358 model," and implemented "integrated general-specialty precision management" ; the control group received routine follow-up management. The total management period was one year. Baseline evaluation, process evaluation, and outcome evaluation were employed to observe the practical effects of the diabetes "1358 model."

Results: Comparing before and after management in the observation group and with the control group, after one year, the comprehensive one-month blood glucose monitoring rate increased from 22.64% to 54.72%; the comprehensive target achievement rate for blood glucose, blood pressure, and blood lipids increased by 11.33%; and the achievement rates for FPG, 2hPBG, HbA1c, as well

as the community consultation rate for diabetes showed statistically significant improvements (P<0.05).

Conclusion: Community diabetes diagnosis and treatment, screening, and standardized management need to be improved. The "1358 model" under the integration of general and specialty practice may break through the bottleneck of insufficient specialist resources for diabetes in the community, further enhancing the disease-specific management level and service connotation of general practitioners for diabetes.

Full Text

Practice and Reflection on the "1358 Model" for Diabetes Based on GP-Specialty Precision Management

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Abstract

Background: Community-based diabetes management in China faces persistent challenges, including suboptimal diagnostic and treatment capabilities, low rates of complication screening, poor adherence to blood glucose monitoring protocols, and inadequate glycemic control. These issues demand innovative solutions from general practitioners. To transform GPs into "specialists within general practice" through GP-Specialty Precision Management, we explored a novel standardized management model for community-based diabetes care.

Objective: To develop an accessible, replicable diabetes health service model based on GP-Specialty Precision Management, establish regional collaborative pathways, and formulate strategies for integrating general practice with specialty care.

Methods: From May to July 2020, 212 outpatients with diabetes were randomly divided into two groups of 106 each. The observation group received intensive health belief interventions using the "1358 Model" with GP-Specialty Precision Management, while the control group received routine follow-up care.

Both groups were managed for one year. Baseline, process, and outcome evaluations were conducted to assess the effectiveness of the diabetes "1358 Model."

Results: After one year, the observation group showed significant improvements compared to baseline and the control group: the one-month comprehensive blood glucose monitoring rate increased from 22.64% to 54.72%; the combined ABC (glycemic, blood pressure, and lipid) target achievement rate rose by 11.33%; and statistically significant improvements were observed in FPG, 2hPBG, and HbA1c target achievement rates, as well as in diabetes community visit rates ($P < 0.05$).

Conclusion: Community diabetes diagnosis, screening, and standardized management require substantial improvement. The "1358 Model," integrated with GP-Specialty collaboration, may overcome resource limitations in community-based diabetes specialty care and enhance GPs' capacity for disease-specific management and service quality.

Keywords: Diabetes mellitus; GP-Specialty Precision Management; 1358 Model; Practice case; Compliance rate; Health belief; Support system; Health management

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GP-Specialty Precision Management for diabetes is an innovative model in which community general practitioners, through specialty training and regional medical consortium collaboration, acquire and apply specialized skills to deliver both generalist care and specialized, individualized health management for patients with diabetes. Guided by the "problems and needs" of diabetes patients in North Bund, Hongkou District, this model leverages mentor-based training for key diabetes physicians, GP-specialty joint clinics, diabetes studios, and community smart health stations. The management strategy follows "professional guidance—self-management—community participation," using "health belief enhancement" as the intervention method and adhering to "health-centered" cyclical diabetes management (PDCA cycle) to provide community patients with specialized management, precise interventions, and comprehensive health care encompassing prevention, screening, diagnosis, treatment, rehabilitation, and education.

1. Practice Background

Current guidelines indicate that the prevalence of diabetes among adults aged 18 and above in China is 11.2% [2]. China has the world' s largest diabetic population, with 60% of patients having at least one complication, a trend toward earlier onset, and overall low effectiveness in diabetes prevention and control, presenting a severe public health challenge [2-3]. Furthermore, guidelines highlight high rates of undiagnosed diabetes, low complication screening rates, inadequate primary care diagnostic and treatment capacity, and poor self-management levels, indicating an unsatisfactory management landscape [3].

In response, the Shanghai Diabetes Prevention and Treatment Project and Shanghai Diabetes Complication Screening Project were launched in 2018 under the leadership of Professor Jia Weiping from Shanghai Sixth People' s Hospital. Hongkou District established a Diabetes Diagnosis and Treatment Center and implemented a mentor-based training program for key diabetes physicians at community health centers.

Since 2019, to explore and implement GP-Specialty Precision Management for community diabetes and enhance the quality of family doctor-based diabetes management, our team designed this research project. Through practice, we established a Self-Monitoring of Blood Glucose (SMBG) cyclical management pathway (PDCA) based on the Health Belief Model (HBM) [4], optimized integration strategies for general practice and specialty care, advocated for GP-Specialty Precision Management, and innovated the community-based diabetes "1358 Model," achieving promising results.

The diabetes "1358 Model" comprises: **1 service concept**—integrated management of diabetes complication prevention and glycemic control; **3 service entry points**—professional guidance, self-management, and community participation; **5 service modules**—health education, standardized diagnosis and treatment, nursing rehabilitation, follow-up screening, and service evaluation; and **8 service units**—diabetes specialty team, diabetes studio, smart health station, internet+APP, specialist outpatient clinic, green referral channel, diabetes hotline, and diabetes nursing clinic.

2. Methods

2.1 Study Design and Participants

From May to July 2020, 212 outpatients were randomly assigned to control and observation groups (n = 106 each). The control group included 50 males and 56 females, aged 71.274 ± 8.336 years (95% CI lower limit: 69.687), with disease duration of 6.217 ± 2.822 years. The observation group included 45 males and 61 females, aged 70.651 ± 6.373 years (95% CI lower limit: 69.368), with disease duration of 6.745 ± 3.330 years. No statistically significant differences were found between groups in gender, age, or disease duration ($P > 0.05$), ensuring comparability.

Inclusion criteria: Diagnosis of diabetes according to the *Chinese Guidelines for the Prevention and Treatment of Type 2 Diabetes (2017 Edition)* [8]; informed consent; willingness to receive intensive management for at least one year.

Exclusion criteria: Patients unsuitable for intensive glycemic management; those unable to care for themselves; non-community residents without family doctor contracts.

2.2 Intervention Methods

We designed questionnaires and conducted diabetes-related indicator monitoring. The observation group received intensive health belief interventions, SMBG training, peer education, and systematic diabetes support through GP-Specialty Precision Management using the "1358 Model" with continuous optimization. The control group received routine follow-up management per Shanghai Disease Control Center requirements. Both groups were managed for one year, with baseline, process, and outcome evaluations of diabetes knowledge and behavior, related indicators, and community visit willingness. Healthcare providers also received one year of diabetes skills training, with pre- and post-training assessments of management concepts and competencies.

2.3 Observation Indicators

Diabetes-related knowledge and behavior: Monitoring rates for fasting plasma glucose (FPG), 2-hour postprandial blood glucose (2hPBG), and HbA1c; SMBG implementation rate; dietary compliance, medication adherence, regular exercise, and complication screening.

Related indicators: FPG and HbA1c target achievement rates; ABC comprehensive target achievement rate (A: HbA1c $< 7\%$; B: blood pressure $\leq 130/80$ mmHg; C: total cholesterol < 4.5 mmol/L).

Factors influencing community visit willingness: Community diagnostic and treatment capacity, medication availability, related indicator testing, complication screening, and convenience of specialist consultation.

2.4 Efficacy Criteria

References included: *Guidelines for the Primary Care of Type 2 Diabetes* [5]; *National Guidelines for the Prevention and Management of Diabetes at the Grassroots Level (2018 Edition)* [3]; *Chinese Clinical Application Guidelines for Blood Glucose Monitoring (2015 Edition)* [6]; *National Basic Public Health Service Standards (2017 Edition)* [7]; *Chinese Guidelines for the Prevention and Treatment of Type 2 Diabetes (2017 Edition)* [8]; and *Expert Consensus on Self-Management Prescription for Type 2 Diabetes in China (2017 Edition)* [9].

2.5 Specialist Support

Collaboration with the Endocrinology and Metabolism Departments of Shanghai First People' s Hospital and Shanghai University of Traditional Chinese Medicine Affiliated Shanghai Integrated Traditional Chinese and Western Medicine Hospital, along with Hongkou District Diabetes Diagnosis and Treatment Center, supported community health service center capacity building.

2.6 Capacity Building

Based on general practitioners and community nurses, we trained regional key diabetes physicians and specialist nurses through specialty training programs at Shanghai Sixth People' s Hospital Endocrinology Department, regional diabetes standardized diagnosis and treatment projects, and mentor-based training. Health managers were also trained to provide community diabetes health management from a future-oriented perspective.

2.7 Technical Process Flowchart

[Figure 1: see original paper] Technical Process Flowchart for Community Diabetes GP-Specialty Precision Management

The flowchart includes: Smart Health Station, Diabetes Studio, Internet+APP, Diabetes Hotline, Green Referral Channel, Specialist Nursing Clinic, Specialist Outpatient Clinic, and Specialty Management Team.

2.7.1 Diabetes Specialty Management Team Comprising general practitioners, specialist nurses, health managers, public health physicians, and psychologists, the team implemented "multi-professional co-management," responsible for precision management, health promotion, comprehensive care, and platform development.

2.7.2 Diabetes Studio Responsible for specialty affairs, community resource coordination, individualized precision services, intra- and inter-institutional referrals, and capacity building. The studio housed a diabetes specialty clinic with monthly guidance from endocrinology specialists from higher-level hospitals for targeted interventions, face-to-face counseling, and referral coordination. Weekly specialty clinics provided individualized education, nursing guidance, and face-to-face interventions, along with case documentation.

2.7.3 5G Smart Health Station for Citizens Facilitated self-service health management, self-service blood glucose monitoring, diabetes complication screening, health risk assessment and intervention, and continuous health education.

2.7.4 Diabetes Support System Optimized two-way referral channels, established a diabetes specialty consultation hotline, developed 54 types of diabetes health education prescriptions [3,6-9] and 4 short educational videos [6], created the "Sugar E-Station" online and offline platform, and established 3 self-service blood glucose monitoring points to guide community resource participation and coordinate specialty services, peer education, SMBG management, and family support.

2.8 Statistical Methods

Data were analyzed using the SPSSAU online analysis tool. Measurement data such as FPG, postprandial glucose, and HbA1c were expressed as mean ± standard deviation (±s) with standard deviation and coefficient of variation, analyzed using t-tests. Monitoring rates, target achievement rates, complication screening, and related behaviors were expressed as percentages (%) and analyzed using ^{2} tests. $P < 0.05$ indicated statistical significance.

3. Results

3.1 Questionnaire Analysis Before and After One-Year GP-Specialty Precision Management

In the observation group, SMBG implementation rate increased from 12.26% to 42.45%, and one-month comprehensive blood glucose monitoring rate increased by 32.08% ($P < 0.05$). Diabetes-related complication screening rates (fundus, foot, peripheral neurovascular, kidney) improved by 15%-41%. Metformin-containing treatment regimens increased by 29.24% ($P < 0.05$). Hyperglycemia prevalence decreased from 39.91% to 14.38% ($P < 0.05$), while hypoglycemia episodes also declined .

Comparison Before and After Community Diabetes GP-Specialty Precision Management (n_1, n_2 = 106 (%))

Indicator	Pre-management (Intervention n_1)	Pre-management (Control n_2)	Post-management (Intervention n_1)	Post-management (Control n_2)	P-value
FPG monitoring within 1 month	51 (48.11)	44 (41.51)	101 (95.28)	53 (50.00)	0.935
2hPBG monitoring within 1 month	39 (36.79)	41 (38.70)	77 (72.64)	43 (40.57)	0.080

Indicator	Pre-management (Intervention n_1)	Pre-management (Control n_2)	Post-management (Intervention n_1)	Post-management (Control n_2)	P-value
Comprehensive glucose monitoring within 1 month※	24 (22.64)	25 (23.58)	58 (54.72)	28 (26.42)	0.027
HbA1c monitoring within 6 months	42 (39.62)	40 (37.74)	89 (83.96)	45 (42.45)	0.080
FPG target achievement#	52 (49.06)	48 (45.28)	74 (69.81)	52 (49.06)	0.303
2hPBG target achievement#	49 (46.22)	45 (42.45)	69 (68.09)	51 (48.11)	0.306
HbA1c target achievement#	54 (50.94)	58 (54.72)	74 (69.81)	57 (53.77)	0.303
SMBG implementation	13 (12.26)	16 (15.09)	45 (42.45)	22 (20.75)	0.360

Indicator	Pre-management (Intervention n_1)	Pre-management (Control n_2)	Post-management (Intervention n_1)	Post-management (Control n_2)	P-value
Good dietary compliance	81 (76.42)	86 (81.13)	101 (95.28)	89 (83.96)	0.705
Regular exercise	78 (73.58)	83 (78.30)	98 (92.45)	85 (80.19)	0.646
Urinary albumin/creatinine screening within 1 year	28 (26.42)	29 (37.36)	72 (67.92)	32 (30.19)	0.024
Carotid plaque screening within 1 year	31 (29.25)	33 (31.13)	54 (50.84)	32 (30.19)	0.090
Fundus screening within 1 year	14 (13.21)	12 (11.32)	44 (41.51)	15 (14.15)	0.175
C-peptide monitoring within 1 year	15 (14.15)	16 (15.09)	66 (62.26)	18 (16.98)	0.038

Indicator	Pre-management (Intervention n_1)	Pre-management (Control n_2)	Post-management (Intervention n_1)	Post-management (Control n_2)	P-value
Weekly foot examination	24 (22.64)	26 (24.53)	40 (37.74)	30 (28.30)	0.105
Metformin use	41 (38.68)	43 (40.57)	72 (67.92)	41 (38.68)	0.079
Hypoglycemia episodes	55/149	58/154	39/324	60/165	-
Hyperglycemia episodes/monitoring times	-	-	-	-	-

Note: Patients from GP-Specialty outpatient clinic; Pre-implementation: status at enrollment; Post-implementation: survey conducted August 2021. # FPG < 7.0 mmol/L, 2hPBG < 10 mmol/L, HbA1c < 7.0% were considered target achievement. Capillary blood glucose at first visit: fasting glucose ≥ 11.1 mmol/L or 2-hour postprandial glucose ≥ 16.9 mmol/L defined hyperglycemia. Good compliance defined as Morisky Medication Adherence Scale score of 8. ※ Monitoring both FPG and 2hPBG at least once within one month.

3.2 Medication Use Comparison

In the observation group, the number of medication types decreased from 2.698 ± 0.875 to 2.481 ± 0.679, indicating better adherence. Before management, over 50% of patients in both groups changed insulin pen needles >3 days; after management, the observation group showed more appropriate needle-changing habits .

Comparison of Insulin Pen Needle Replacement Between Two Groups Before and After One-Year GP-Specialty Precision Management

3.3 Comprehensive Diabetes Management Indicators

No significant differences existed between groups before management ($P > 0.05$). After management, the observation group showed mean reductions of 0.83 mmol/L in FPG, 0.35 mmol/L in 2hPBG, and 0.57% in HbA1c, with target achievement rates increasing by 18.87%, 18.83%, and 18.87% respectively ($P < 0.05$). The ABC comprehensive target achievement rate increased by 11.33% ($P < 0.05$) .

Comparison of Comprehensive Diabetes Management Indicators Between Control and Observation Groups (±s, (%))

Indicator	Control Group (Baseline)	Observation Group (Baseline)	Control Group (Post-management)	Observation Group (Post-management)	Cohen's d
FPG (mmol/L)	8.92 ± 2.24	8.34 ± 2.31	7.74 ± 1.43	6.91 ± 1.13	-
2hPBG (mmol/L)	10.14 ± 2.24	10.56 ± 2.27	9.25 ± 1.88	8.90 ± 1.76	-
HbA1c (%)	7.52 ± 1.26	7.43 ± 1.46	7.18 ± 1.02	6.62 ± 0.93	-
FPG target achievement	50 (47.17)	54 (50.94)	37 (34.91)	74 (69.81)	-
2hPBG target achievement	49 (46.23)	49 (46.23)	66 (62.26)	69 (65.09)	-
HbA1c target achievement	51 (48.11)	54 (50.94)	59 (55.66)	74 (69.81)	-
ABC comprehensive achievement	25 (23.58)	28 (26.41)	28 (26.41)	40 (37.74)	-

Comparison within observation group before and after management. # FPG < 7.0 mmol/L, 2hPBG < 10 mmol/L, HbA1c < 7.0% defined as target achievement.

3.4 Community Visit Willingness Survey

After one year of GP-Specialty management and capacity building, the observation group showed significantly higher satisfaction than the control group: medication availability satisfaction was 17.93% higher; blood glucose testing

capacity was 35.84% higher; satisfaction with family doctor specialist consultation was 13.22% higher. The observation group also reported significantly higher confidence that the community could solve basic problems, conduct routine complication screening, and meet medication needs ($P < 0.05$) .

Diabetes Community Visit Willingness Survey After GP-Specialty Precision Management (August 2020–July 2021)

Factor	Control Group	Observation Group	Cohen' s d
Community diagnostic capacity	69 (65.09)	88 (83.01)	0.527
Medication basically meets needs*	72 (67.92)	92 (86.79)	-
Community has glucose-related testing capacity	58 (54.72)	91 (85.85)	-
Community can solve basic problems	72 (67.92)	96 (90.56)	-
Community can conduct complication screening	55 (51.89)	89 (83.96)	-
Community specialist consultation guidance	87 (82.07)	102 (96.23)	-

Includes extended prescriptions.

4. Discussion

4.1 Model Effectiveness

The "1358 Model" based on GP-Specialty Precision Management addresses key challenges in community diabetes management. Using health belief enhance-

ment as the lever and GP-Specialty Precision Management as the core, the model positively impacted GPs' standardized diagnosis and treatment capabilities, complication screening, blood glucose monitoring, dual-target achievement, patient health beliefs, and support system development. Our study demonstrated that one-month comprehensive blood glucose monitoring increased from 22.64% to 54.72%; ABC comprehensive target achievement rose by 11.33%; complication screening rates improved by 15%-41%; and statistically significant improvements occurred in FPG, 2hPBG, HbA1c target achievement rates, and community visit rates ($P < 0.05$). Both groups showed reductions in FPG, 2hPBG, and HbA1c after management, possibly due to the "1358 Model" promotion, healthcare training, and peer education, but the observation group showed more pronounced improvements with larger Cohen' s d values ($P < 0.05$).

4.2 Support System Development

Over one year, monthly specialist guidance at GP-Specialty clinics provided targeted interventions for 442 visits. Monthly diabetes training sessions for GPs and mentor-based training for 2 key diabetes physicians were conducted. We established intra- and inter-institutional referral and consultation platforms, added 4 new classes of hypoglycemic agents, and introduced 5 new diabetes-related tests. These developments enhanced community diabetes management capacity, including diagnosis of new-onset diabetes, complication screening, medication availability, standardized treatment, monitoring protocols, and support systems, significantly increasing patients' willingness to seek community-based care. Patient self-efficacy also improved, evidenced by increased SMBG, diabetes diaries, disease knowledge, glycemic target achievement, HbA1c control, standardized monitoring (especially postprandial glucose), and ABC comprehensive target achievement. Two-way referral channels were streamlined, and internal and external support systems were strengthened. Literature confirms [9-10] that Diabetes Self-Management Education and Support (DSMES) emphasizes multidisciplinary teams, with shared care models being highly effective. DSMES is a continuous behavior change cycle requiring multi-professional team and technical support to achieve standardized, systematic diabetes self-management. Regional residents' sense of access to contracted family doctor services and diabetes health management experience markedly improved. Building on health belief enhancement and integrating general practice with specialty care, we innovated the community diabetes "1358 Model," establishing an effective and accessible health management platform.

4.3 Application Scope

This model, using "community-based comprehensive diabetes health management" as a case study, advocates for health belief enhancement, integrates general practice and specialty resources, establishes robust community support systems, and continuously optimizes cyclical management. Results indicate that

GP-Specialty Precision Management significantly improved patients' health beliefs, knowledge and behavior, ABC target achievement, and community visit willingness. The "1358" diabetes service model under GP-Specialty Precision Management may be applicable to community-based chronic disease management for hypertension, stroke, COPD, coronary heart disease, and other chronic conditions.

4.4 Study Limitations

This study' s diabetes cases were all from our center' s GP-Specialty outpatient clinic, with a relatively small sample size, older average age, short management duration, and potential impacts from the COVID-19 pandemic, which may introduce bias and errors. Observations are ongoing regarding full-population applicability, larger sample sizes, extended management duration, patient adherence, complication screening, ABC target achievement, community visit willingness, and management strategies under pandemic conditions. The "1358 Model" requires further refinement through ongoing process and outcome evaluations.

4.5 Key Insights

4.5.1 Professional Value We developed an accessible, replicable "1358 Model" for GP-Specialty Precision Management that addresses community diabetes management challenges: low diagnostic capacity, poor complication screening, inadequate monitoring, and low treatment standardization rates [3]. The model also tackles the critical issue of GPs being "generalists without specialty expertise" and limited access to specialist resources. Our study found that community diabetes visit rates increased from 66.31% to 80.28% after implementing the "1358 Model." This approach may effectively alleviate pressure on tertiary hospitals, expand health management pathways for contracted residents, improve community diabetes self-management efficacy, and establish a platform for prevention, screening, diagnosis, rehabilitation, and education, guiding a shift from "glycemic control only" to "integrated complication prevention and glycemic control."

4.5.2 Problem- and Needs-Oriented Precision Management Problem- and needs-oriented GP-Specialty Precision Management may become a crucial model for community diabetes comprehensive management. Patients vary in age, culture, lifestyle, health beliefs, and risk factors. In person-centered care, GPs must address not only current problems but also manage ongoing issues, provide preventive care, and improve healthcare-seeking behavior [11]. GP-Specialty Precision Management practice demonstrates that glycemic control, complication screening, and comprehensive treatment require GPs to possess both generalist competencies and urgent specialty expertise to provide high-quality, individualized services and achieve comprehensive, continuous, accessible, and coordinated care [11]. Therefore, GP-specialty integration with precision management has positive significance and may represent an optimal health

management model.

4.5.3 Health-Centered Management Strategy Health-centered management may represent the future trend in health management. Community diabetes management has long been a focus of domestic and international experts. Effective DSMES is fundamental to helping patients implement and maintain healthy behaviors [12], with clear benefits for clinical, psychological, and social outcomes [13]. Over two years, North Bund has promoted residents' self-health management through health belief model establishment, functional community development, and 5G smart health stations. Using smart glucometers (GSM wireless terminals) for data collection and doctor-patient interaction enables "Internet+blood glucose" management with data transmission, dynamic intervention, real-time monitoring, and online guidance, favored by younger patients, working professionals, those with mobility limitations, and patients during emergencies like COVID-19. Evidence shows [4] this effectively improves adherence and intervention timeliness, optimizing health management experience. This multi-dimensional online-offline model may gain wider acceptance in the Internet era.

4.5.4 Individualized Intervention-Based Precision Management Individualized intervention-based specialized precision management is an effective diabetes management approach. Guidelines [2] state that HbA1c targets should be individualized based on patient age, disease duration, health status, and medication risk profile, with scientific assessment of risk-benefit and cost-effectiveness ratios to achieve optimal balance [14]. While diabetic populations share common characteristics, they also have individual features. GPs must view issues from patients' perspectives, providing not only routine biomedical treatment but also individualized, humanistic care to protect patients' best interests [10]. In the "five-horse carriage" of diabetes management, patients' cultural habits, health beliefs, self-efficacy, and enabling factors create different management requirements. GPs can leverage their role advantages and specialized precision management to provide comprehensive, continuous health services. Evidence demonstrates that individualized intervention effectively reduces hypoglycemia incidence and improves adherence.

4.5.5 Community-Based GP-Specialty Precision Management GP-Specialty Precision Management may enable community residents to experience specialized precision services locally, alleviating overcrowding in tertiary hospitals. Specialist 下沉 to communities enhances GPs' specialty expertise, transforming them into "specialists within general practice." GP-specialty collaborative services provide chronic disease patients with more precise, individualized comprehensive, continuous, and accessible care. Literature [1,15-16] shows that blood glucose-related support systems—including glucometer access, health information, community resources, GP services, convenient specialist consultation, family support, peer education, and online resources—positively impact glycemic

control. Studies also indicate [1,17] that patients with better social support demonstrate better SMBG self-management, with both intra- and extra-family support correlating positively with treatment adherence. This fundamentally promotes family doctor contract services and health management implementation, enabling more chronic disease patients to receive specialized management and effective support without leaving their communities, creating a virtuous cycle of "seeking care in community, accessing specialists for serious illness, securing contracted services, having GPs for health, and receiving precision management."

Community diabetes management remains a formidable task. How to achieve collaborative, integrated GP-specialty services for comprehensive, effective, continuous, and individualized diabetes management is a crucial challenge for community GPs. The North Bund "1358 Model" may break through current community diabetes management bottlenecks and realize GP-Specialty Precision Management.

5. Author Contributions

Yao Yuzhong: Literature review, research conceptualization, study design, project application, research management, participation in district mentor-based training for key diabetes physicians, GP-Specialty outpatient clinic, innovation of the diabetes "1358 Model," GP-Specialty Precision Management implementation, case collection, manuscript writing and finalization.

Ma Xiaojun: Research guidance, conceptualization of GP-Specialty Precision Management, organizational implementation guidance, resource and professional support for "1358 Model" development, study protocol revision, research implementation supervision, manuscript revision guidance.

Song Huan: Case and data collection, participation in district mentor-based training for key diabetes physicians, GP-Specialty outpatient clinic, participation in "1358 Model" development and implementation.

Zhong Yu: Case collection and analysis of GP-Specialty management, research survey and data collection, diabetes health management data quality control, coordination of community diabetes health management and follow-up.

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Note: Figure translations are in progress. See original paper for figures.