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SECONDARY STROKE PREVENTION IN SOCIAL MEDIA AND THE DIGITAL ECOSYSTEM

A NARRATIVE REVIEW IN CHINA

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BACKGROUND

- SSP (antihypertensive, lipid-lowering, and antiplatelet therapy plus lifestyle changes) is difficult to sustain after hospital discharge[1,2]
- China combines the world's largest stroke survivor population with near-universal mobile connectivity, creating an unmatched opportunity to extend prevention beyond the hospital. Survivors and caregivers actively use digital platforms for SSP information[3,4]

OBJECTIVE

- To synthesize evidence on how digital platforms influence prevention behaviors and identify conditions for effective implementation

METHODS

Narrative review

Search window: February 2010–February 2026

Databases

PubMed | Embase | Web of Science | PsycINFO | CNKI | Wanfang

Six evidence domains were assessed:

1. Adherence gaps
2. Content quality
3. Digital access
4. Behavioral mediators
5. Social support
6. Intervention effectiveness

RESULTS

1 Adherence pays off, and there is room to grow[5]

- In CNSR-III (N=9022), 34.9% of patients adhered to guideline-based SSP. Among these patients, the 12-month residual risk of recurrent stroke was 8.3% compared with 10.2% (HR 0.85 [95% CI 0.74–0.99; p=0.04]) in those who did not adhere
- Extending adherence is a measurable prevention opportunity

2 THE QUALITY OF SHORT-VIDEO SOCIAL MEDIA CONTENT ABOUT STROKE IS VARIABLE[4,6]

In a cross-sectional analysis study (January 2025): **31%** of the most-liked TikTok stroke videos (n=100) contained misinformation

ENGAGEMENT ≠ ACCURACY

- Content produced by HCPs was of higher quality and was less likely to include misinformation versus that generated by content creators and general users
- The popularity of content did not correlate with its quality[4]

3 EXPOSURE TO DIGITAL CONTENT POSES BOTH OPPORTUNITIES AND RISKS IN SSP[4,6–9]

Digital exposure

SM Social media | SV Short video | SE Search | OC Online communities



Opportunities

- Evidence-based information
- Professional communication
- Medication reminders and adherence support
- BP monitoring
- Risk factor control
- Caregiver and peer support
- Remote follow-up
- Rehabilitation guidance

Risks

- Misinformation
- Low actionability
- Weak transparency
- Echo chambers

Design implication: govern exposure, strengthen trust, and connect content to clinical action

4 THE POTENTIAL BENEFITS OF DIGITAL CONTENT DEPEND ON MULTIPLE FACTORS

CR Credibility | HL Health literacy | CM Community moderation | AL Algorithmic exposure

↓

SUPPORTED ACTION

5 GOVERNED PREVENTION ECOSYSTEM

Foundational requirements

- Health literacy
- Equity
- Governance

→ CARE

Survivor and caregiver
Trusted content
Professionals
Moderated peer support

↓

Sustained prevention
Adherence
Risk factor control
Continuity of care

Safeguards and clinical workflow integration turn digital reach into durable prevention

6 SINEMA: CHINA-GENERATED RANDOMIZED EVIDENCE THAT DIGITAL–CLINICAL INTEGRATION SUSTAINS PREVENTION[10,11]

- In a cluster randomized controlled trial conducted in rural China over 5.5 years' follow-up, use of a primary care-based mobile health intervention† (versus usual care alone) resulted in:

N=1042 patients

- Improved BP control
- Sustained systolic BP reduction (−2.8 mmHg [95% CI −5.3, −0.3; p=0.03])
- Lower recurrent stroke proportion (RR 0.77 [95% CI 0.61–0.99])

†Including both HCP-centered and patient-targeted technology

CONCLUSIONS

- Digital access for SSP is meaningful but uneven
- Content quality is often moderate to low; transparency and actionability are limited
- Caregivers and peers can help, but unmoderated communities may amplify misinformation
- Integration is the key differentiator: digital tools work best inside care delivery

The future of digital SSP is not simply more health content

It is a governed, behavior-oriented, clinically integrated digital ecosystem

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Abbreviations
BP, blood pressure; **CI**, confidence interval; **CNKI**, China National Knowledge Infrastructure; **CNSR-III**, Third China National Stroke Registry; **HCP**, healthcare professional; **HR**, hazard ratio; **RR**, risk ratio; **SSP**, secondary stroke prevention

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