With the increase in vaccine opposition, immunization programs (IPs) are faced with addressing different types of incorrect vaccine information (Figure 1). Therefore, AIM conducted an environmental scan to learn more about the common categories and recurring themes that IPs must address in developing educational materials for providers and the public, when communicating with policy makers, and when using social media. The scan collected a total of 36 months of vaccine information from May 2017 – May 2020 from peer-reviewed journal and media articles, blogs, websites, online discussion groups, social media, and other digital channels. Information was collected from both vaccine-supportive and vaccine-opposition perspectives.

Given how difficult it is to change inaccurate beliefs, it is critical for IPs to understand how to proactively address incorrect vaccine information. In addition to the environmental scan key findings, below are suggested activities that IPs can take to combat incorrect vaccine information. The full environmental scan report can be found at www.immunizationmanagers.org/misinformation.

**Figure 1: Types of Incorrect Vaccine Information**

- **Misinformation**: unintentionally distributing incorrect information
- **Disinformation**: knowingly developing and disseminating incorrect information intended to deceive
- **Mal-information**: disturbing information such as personal information or “shock-value” information intended to harm
Environmental Scan Key Findings

Characteristics of Incorrect Vaccine Information Found in Digital Content

- The digital space is the primary source of disinformation.
- Individual and organizational vaccine-opposition groups produce 6.5 times more Facebook posts than vaccine-supportive groups.
- Disinformation (68%) was the most common type of incorrect vaccine information, followed by mal-information (20%) and misinformation (12%).
- The majority of incorrect information falls into three categories (Safety, Conspiracy, Pseudo-science) across eight themes which contains common key messages. (Figure 2)

While some misinformation comes through personal and interpersonal sources (mostly in the form of personal stories), an overwhelming majority of disinformation is generated and distributed by vaccine-opposition organizations or influencers.

Based on an audit of ten vaccine-opposition organizations’ digital content:
- Most organizations have a prominent figurehead;
- 67% contained ultra-right or alt right content; and
- 44% are actively engaged in selling their products on their websites and social media platforms.
Characteristics of Incorrect Vaccine Information Found in Two Online Discussion Groups

- The most common words used by undecided parents was “anxious” (1,232 instances), “anxiety” (842), “worry”/“worried” (641), and “afraid” (439).
- Sixty-six percent of parents expressing anxiety over an upcoming well-baby visit cited provider “disinterest,” “impatience,” or “lack of ‘bed-side’ manner” as fueling their anxiety.
- The most referenced resources were the Vaccine Information Statement (VIS) and the vaccine package insert.
- The most common questions raised by undecided parents were regarding:
  - Clarification regarding language in VIS and vaccine package inserts that frightened them and/or were used as proof points in incorrect vaccine information;
  - Help interpreting vaccine-related journal articles;
  - Input on anti-vaccine memes (are they true? why or why not); and
  - Assurances and support for upcoming well-baby visits.

Characteristics of Resources that Address Incorrect Vaccine Information and Promote Vaccine Confidence

- Producers of resources to address incorrect vaccine information generally focus on four types. (Figure 3)

<table>
<thead>
<tr>
<th>Provider Training and Support</th>
<th>Resources for health care providers in addressing inaccurate vaccine information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Education</td>
<td>Resources so patients and thier caregivers have clear, accurate, credible educational resources</td>
</tr>
<tr>
<td>Social Media</td>
<td>Organizational reports and call to actions that highlight the need to address inaccurate vaccine information on social media</td>
</tr>
<tr>
<td>Communication Campaigns</td>
<td>Organizational call to action to urge health departments to be proactive in communicating the value of vaccines</td>
</tr>
</tbody>
</table>

Figure 3: Types of resources produced to address incorrect vaccine information

- Existing information gaps in information are:
  - Transparency about the business of vaccines
  - Adequate and audience-appropriate explanations about the science of vaccines and immunity
  - Lack of organizations/influencers to reach those who distrust medical and scientific authorities
  - Public education materials at the appropriate levels (6th grade reading level)
Characteristics of Policy Efforts

- As of June 2020, 43 state bills were proposed in the 2020 state legislative session:
  - 15 aimed to restrict exemptions
  - 14 aimed to strengthen exemptions or reduce mandates
  - 4 aimed to reduce sanctions against those who choose not to vaccinate
  - 4 aimed to share information about vaccine ingredients with patients
  - 3 aimed to increase investigation of vaccine correlation in infant deaths
  - 2 aimed to increase compliance with informed consent and adverse reporting requirements
  - 1 aimed to increase awareness about serological testing to reduce unnecessary vaccination

- The most common arguments used to weaken exemptions and reduce mandates are:
  - Parental rights
  - Religious freedoms
  - Medical freedoms
  - Informed choice
  - Vaccine safety/injury
  - Vaccine efficacy

Suggested Activities

**ACTIVITY #1**

Develop materials to proactively address incorrect vaccine information (e.g., Q&A, fact sheets, social media posts, etc.)

+ Provide clear and factual information that’s framed in a way that matches the audience’s culture and values.
+ Refer to trusted, credible sources when correcting incorrect vaccine information.
+ Ensure written content is at a 6th grade reading level or lower.
+ Develop key messages that directly address vaccine opposition messages:
  - Counter the intent of disinformation and misinformation;
  - Recognize that many vaccine hesitancy issues begin with truthful information, and develop messages that are clear and direct in addressing these issues; and
  - Explain why the misinformation or disinformation is wrong.

**Online Q&A Repository**

Find a collection of over 40 Q&As to address incorrect vaccine information related to vaccine safety, conspiracies, and pseudo-science.

[www.immunizationmanagers.org/misinformation](http://www.immunizationmanagers.org/misinformation)
+ Develop messages to promote vaccine confidence:
  – Address misperceptions regarding VIS and package inserts;
  – Include messaging and narratives that are empathetic and affirming for those who are feeling anxious about vaccine decision-making; and
  – Include content about the science and business of vaccines.
+ Create tailored key messages for each of the themes and categories (see Figure 2) and various levels of influence (e.g., parents, family, friends, community groups, organizations, etc.)
  – Define the particular needs of each level of influence and tailor messaging and communication resources to meet those needs; and
  – Organize resource catalog by levels of influence (e.g., materials for parents vs. providers vs. community organizations, etc.).
+ Develop factual, impact-driven key messages for current legislative focuses.

**ACTIVITY #2**

Engage stakeholders to have a united response when addressing incorrect vaccine information

+ Develop a network of diverse partners, particularly those representing demographics prone to vaccine hesitancy, that will be committed to denounce disinformation and mal-information.
+ Identify and support more grassroots and community vaccine advocates, and equip them to address incorrect vaccine information.
  – Recognize that organizational level members (e.g., scientific bodies, healthcare organizations) are not necessarily trusted sources for vaccine-hesitant parents, whereas community-based faith organizations, parent groups, schools, and providers may be; and
  – Encourage policy and grassroots partners to focus on state rather than national legislative efforts.
+ Partner with advocacy and coalition groups to prepare the public to identify evidence-based research, recognize signs of misinformation and dis-information, and fact check.
+ Encourage partners to develop a more personal voice and narrative for parent-facing content and messages.
+ Work with partners to train volunteers on identifying and reporting disinformation and mal-information on social media platforms.
+ Support vaccine-supportive organizations and state level coalitions’ efforts to:
  – Build a bank of credible and compelling spokespersons for legislative public comment; and
  – Have messages to counter legislative efforts to strengthen exemption policies.
**ACTIVITY #3**

**Work with providers to combat incorrect vaccine information**

- Provide trainings and resources on improving their emotional support component to build vaccine confidence.

**ACTIVITY #4**

**Have a plan to disseminate materials and engage the media**

- Proactively disseminate accurate correct vaccine-supportive information through local media outlets, and regularly engage audiences on social/digital channels.
- Identify a bank of skilled media commentators in digital, print, radio, and TV to keep vaccine-supportive messages relevant and in the news consistently.
  - Ensure the bank is diverse and does not solely rely on doctors and scientists, as medical and science authorities are not always trusted sources of information among vaccine hesitant.

**Digital Content (websites, blogs, etc.)**

- Organize resource catalog by level of influence (e.g., resources for parents, providers, community advocates).

**Social Media**

- Develop a rapid crisis communication plan for unanticipated vaccine news.
- Prepare social media strategies ahead of anticipated vaccine news to take advantage of increased attention in social media.
- Identify hashtags and other amplification tactics to use.
- Develop handles that inspire engagement to amplify efforts.
- Adapt messages so there are appropriate (i.e. short and pithy) for social media.
- Understand and develop a strategy for alternative social media where vaccine opposition organizations have reengaged after being banned/censored from Facebook and/or Twitter.